

File 347:JAPIO Oct 1976-2002/Jun(Updated 021004)

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File 350:Derwent WPIX 1963-2002/UD,UM &UP=200268

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File 348:EUROPEAN PATENTS 1978-2002/Oct W02

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File 349:PCT FULLTEXT 1979-2002/UB=20021017,UT=20021003

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16/20/02

Set	Items	Description
S1	25	AU='DAVISON D':AU='DAVISON D W' OR AU='DAVISON DANIEL':AU=- 'DAVISON DANIEL B'
S2	0	S1 AND (TREE OR TREES OR HIERARCH? OR RELATIONAL? ? OR RDB- MS OR (DIRECTORY OR FILE)())STRUCTURE? ?)

File 347:JAPIO Oct 1976-2002/Jun(Updated 021004)

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File 350:Derwent WPIX 1963-2002/UD,UM &UP=200268

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Set	Items	Description
S1	59434	TREE OR TREES OR HIERARCH? OR RELATIONAL? ? OR RDBMS OR (D-IRECTORY OR FILE) ()STRUCTURE? ?
S2	711979	TABLE? ? OR ARRAY? ? OR GRID? ? OR MATRIX?? OR MATRICE? ?
S3	3262635	OBJECT? ? OR DATA OR INFORMATION?? OR CONTENT OR DOCUMENT? ? OR RECORD? ?
S4	252551	PARENT? ? OR DIRECT??(3N)REPORT??? OR LEADER? ? OR CHILD? ? OR LEAF? ? OR LEAVES OR NODE? ?
S5	41024	S3(3N)(RELATIONSHIP? ? OR RELATION? ? OR ASSOCIATION? ? OR AFFILIATION? ? OR CONNECTION? ? OR INTERRELATION? ? OR CORREL-ATION? ? OR CORRESPONDENCE? ?)
S6	356687	S3(3N)(ANOTHER OR OTHER OR SECOND??? OR 2ND OR NEXT OR ADD-ITIONAL OR DIFFERENT OR SEPARATE OR FOLLOWING OR BETWEEN OR H-IGHER OR ABOVE OR LOWER OR BELOW OR UNDER)
S7	23203	S6(3N)(RELATE? ? OR RELATING OR ASSOCIAT? OR AFFILIAT? OR -CONNECT? OR ALLIE? ? OR INTERRELAT? OR PARTNER? OR CORRELAT? -OR JOIN?? OR CORRESPOND?)
S8	30933	S4(5N)(RELATIONSHIP? ? OR RELAT???? OR ASSOCIAT? OR AFFILI-AT? OR CONNECT? OR ALLIE? ? OR INTERRELAT? OR PARTNER? OR COR-RELAT? OR JOIN?? OR CORRESPOND?)
S9	337993	S3(5N)(ID OR IDENTIFIE? ? OR IDENTIFICATION OR NUMBER? ? OR NUMER? OR CODE OR CODES OR CODING OR NAME OR NAMES OR DESIGN-ATOR? OR DESIGNATION OR TAG? ? OR ADDRESS?? OR POINTER? ?)
S10	2323	S2(10N)S5
S11	131	S1 AND S10 AND IC=G06F
S12	934	S2(10N)S7
S13	41	S1 AND S12 AND IC=G06F
S14	888	S2(10N)S8
S15	76	S1 AND S14 AND IC=G06F
S16	72	S15 NOT S13
S17	107	S11 NOT (S13 OR S16)
S18	76	S17 AND INFORMATION??
S19	31	S17 NOT S18

13/5/6 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO
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06131814 **Image available**
RECURSIVE OBJECT RESTORING METHOD AND **RELATIONAL** DATABASE TO BE USED FOR
THE METHOD

PUB. NO.: 11-073352 [JP 11073352 A]
PUBLISHED: March 16, 1999 (19990316)
INVENTOR(s): ITOU YACHIYO
APPLICANT(s): SANYO ELECTRIC CO LTD
APPL. NO.: 09-234823 [JP 97234823]
FILED: August 29, 1997 (19970829)
INTL CLASS: **G06F-012/00 ; G06F-009/44 ; G06F-017/30**

ABSTRACT

PROBLEM TO BE SOLVED: To obtain a recursive object restoring method capable of executing high speed processing and a **relational** database to be used for the method.

SOLUTION: The object ID values of the respective highest order objects in the **hierarchical** struction of respective objects are previously recorded in a **table** of the **relational** database and all **lower objects related** to a required uppermost object are extracted in accordance with the object ID of the highest order object recorded in the table. The **hierarchical** relation of all the extracted objects is restored in accordance with the object ID of a master object recorded in the table.

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13/5/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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05659769 **Image available**
SYSTEM AND METHOD FOR PREPARING KNOWLEDGE DATA BASE

PUB. NO.: 09-274569 [JP 9274569 A]
PUBLISHED: October 21, 1997 (19971021)
INVENTOR(s): KOSHISHIBA ERI
TSUYAMA TSUTOMU
UENO HIDENORI
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 08-084204 [JP 9684204]
FILED: April 05, 1996 (19960405)
INTL CLASS: [6] **G06F-009/44 ; G06F-009/44**
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a system and method for preparing knowledge data base with which knowledge data can be easily changed or added while attaining the check of **hierarchies** or contents in a knowledge base without depending on the ability of a knowledge base correcting person even after the knowledge base is temporarily constructed.

SOLUTION: This system is composed of a data base 9 in data structure with which detailed knowledge is defined for each node while having **hierarchical** structure mutually **relating** plural nodes, **data table** showing which **other** node is **related** to each node in **hierarchical** structure defined inside the data base or which limitation expression exists among the respective nodes, **hierarchical** structure definition parts 3 and 4 for defining the **hierarchical** structure of knowledge inside the data base, knowledge correction part 5 having functions for blocking, changing and adding the respective nodes in the **hierarchical** structure, and knowledge display parts 2 and 7 for displaying the respective nodes in

the **hierarchical** structure defined inside the data base on a knowledge correction operating picture.

13/5/8 (Item 8 from file: 347)

DIALOG(R)File 347:JAPIO

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05041731 **Image available**
RESOURCE DATA MANAGEMENT DEVICE

PUB. NO.: 07-334331 [JP 7334331 A]
PUBLISHED: December 22, 1995 (19951222)
INVENTOR(s): KARAKIDA SHIYOUJI
APPLICANT(s): FUJI XEROX CO LTD [359761] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-150323 [JP 94150323]
FILED: June 07, 1994 (19940607)
INTL CLASS: [6] **G06F-003/12** ; B41J-005/30
JAPIO CLASS: 45.3 (INFORMATION PROCESSING -- Input Output Units); 29.4 (PRECISION INSTRUMENTS -- Business Machines)

ABSTRACT

PURPOSE: To improve the use efficiency of a memory by registering print resource data, which are shared in a group, in a storage area common to the group.

CONSTITUTION: A correspondence table 8 holds discrimination data for discriminating a user, a print control information name made **hierarchical** corresponding to the discrimination data, and resource data storage area information in each entry. A resource specifying means 3 when receiving discrimination data from an input means 2 acquires the print control information name and resource data storage area information corresponding to the discrimination data by referring to the correspondence table 8. When there is not the entry of the discrimination data in the correspondence table 8 at this time, the print information control information name corresponding to discrimination data of higher order is obtained. When there are not necessary resource data in the area indicated with the resource data storage area information, the resource data storage area information on a resource data storage area of higher order where the resource data are present. A print control information setting means 5 takes out print control information and resource data required for it on the basis of the information and sets them in a data processing means 6.

13/5/10 (Item 10 from file: 347)

DIALOG(R)File 347:JAPIO

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04559305 **Image available**
MACRO-CONNECTING SYSTEM FOR STATE TRANSITION DIAGRAM

PUB. NO.: 06-231205 [JP 6231205 A]
PUBLISHED: August 19, 1994 (19940819)
INVENTOR(s): KATOU AYUMI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-039481 [JP 9339481]
FILED: February 03, 1993 (19930203)
INTL CLASS: [5] **G06F-015/60**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1830, Vol. 18, No. 614, Pg. 141, November 22, 1994 (19941122)

ABSTRACT

PURPOSE: To prevent an error caused by an intervention of man-power, and also, to make a drawing easily visible.

CONSTITUTION: A connecting destination table generating part 4 sets an initial value of a connecting destination table by referring to drawing information stored in a drawing information store part 3, displays this connecting destination table on a drawing editor 1, and also, stores it in a connecting destination table store part 5. A net list generating part 6 generates a net list by referring to the drawing information stored in the drawing information store part 3 and the connecting destination table stored in the connecting destination table store part 5, and stores its net list in a net list store part 7. An inter- **hierarchy** connecting information adding part 8 generates **connecting information of data between hierarchies** by referring to the connecting destination **table** stored in the connecting destination store part 5 and the net list stored in the net list store part 7, and updates the contents of the net list stored in the net list store part 7 by this connecting information.

13/5/11 (Item 11 from file: 347)
DIALOG(R)File 347:JAPIO
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04392085 **Image available**
BLOCK CONNECTING SYSTEME

PUB. NO.: 06-035985 [JP 6035985 A]
PUBLISHED: February 10, 1994 (19940210)
INVENTOR(s): KATOU AYUMI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 04-193521 [JP 92193521]
FILED: July 21, 1992 (19920721)
INTL CLASS: [5] **G06F-015/60**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1739, Vol. 18, No. 261, Pg. 100, May
18, 1994 (19940518)

ABSTRACT

PURPOSE: To clearly observe a drawing by designating **connection between different hierarchical data** with a **table** without wiring.

CONSTITUTION: A drawing information input/output part 2 performs the storage of drawing information plotted on a picture editor 1 into a drawing information storage part 3 and the display of the drawing information storage part 3 onto the picture editor. While referring to the drawing information storage part 3, a connection destination list 5 is prepared by a connection destination list preparation part 4 and displayed on the picture editor 1. While referring to the connection destination list 5 and the drawing information storage part 3 set by a user, connection information is prepared by a connection information preparation part 6 and stored in a connection information storage part 7

13/5/12 (Item 12 from file: 347)
DIALOG(R)File 347:JAPIO
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04116731 **Image available**
QUICK ACCESS METHOD FOR **RELATIONAL** DATA BASE IN **HIERARCHICAL** STRUCTURE

PUB. NO.: 05-108431 [JP 5108431 A]
PUBLISHED: April 30, 1993 (19930430)
INVENTOR(s): NAKAMURA JINNOSUKE
HATAKEYAMA KOZO
INOUE YOSHIKI
KATO AKIHIKO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
NIPPON TELEGR & TELEPH CORP <NTT> [000422] (A Japanese
Company or Corporation), JP (Japan)

APPL. NO.: 03-263567 [JP 91263567]
FILED: October 11, 1991 (19911011)
INTL CLASS: [5] G06F-012/00
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units)
JOURNAL: Section: P, Section No. 1600, Vol. 17, No. 467, Pg. 38,
August 25, 1993 (19930825)

ABSTRACT

PURPOSE: To access the **relational** data base in **hierarchical** structure at high speed at the time of a collation processing by defining a **connection** relation **between** a **record** constituting the **table** of high-order **hierarchy** and a record constituting the table of low-order **hierarchy**.

CONSTITUTION: A record where a column designated in a table relation definition information 220 has the same value is previously searched in a relation definition processing part 201, and position information on the record is stored in a master table 210 and slave tables 211 and 212. At the time of executing the collation processing, a memory load judgement processing part 202 judges whether the record of the master table 210 being the object of collation exists on a memory or not based on selection condition information 221. If it exists, the information is succeeded to a selection processing part 204. It obtains position information on the record of the slave table 211 or 212, which coincides with the condition, from the master record 210 and selection condition information 221, inputs the record and edits the record being the object of collation so as to output a collation result 231

13/5/13 (Item 13 from file: 347)
DIALOG(R)File 347:JAPIO
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03795576 **Image available**
DATA BASE RETRIEVING SYSTEM

PUB. NO.: 04-160676 [JP 4160676 A]
PUBLISHED: June 03, 1992 (19920603)
INVENTOR(s): KATSUTA HITOSHI
APPLICANT(s): FUJI XEROX CO LTD [359761] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-288049 [JP 90288049]
FILED: October 25, 1990 (19901025)
INTL CLASS: [5] G06F-015/40 ; G06F-012/00
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.2 (INFORMATION PROCESSING -- Memory Units)
JOURNAL: Section: P, Section No. 1425, Vol. 16, No. 454, Pg. 152, September 21, 1992 (19920921)

ABSTRACT

PURPOSE: To easily search necessary data from a data base by retrieving a record belonging to another **relational** table based upon a retrieved record and reference restriction relating to a table to be retrieved to which the retrieved record belongs.

CONSTITUTION: Data consisting of tables and information indicating reference restriction between plural tables are stored in a **relational** data base 11. A reference restriction retrieving means 12A retrieves reference restriction information relating to a table to be retrieved from the data base 11. On the other hand, a record retrieving means 12B retrieves a record **relating** to a required **record** and belonging to **another** **table** from the **data** base 11 based upon the retrieved record and the reference restriction relating to the table to be retrieved to which the record belongs. Consequently, data relating to the record obtained by retrieval, i.e. a record registered in another table can be traced based upon record obtained by retrieval.

13/5/14 (Item 14 from file: 347)
DIALOG(R)File 347:JAPIO
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03715718 **Image available**
SOFTWARE MANUAL MANAGING SYSTEM

PUB. NO.: 04-080818 [JP 4080818 A]
PUBLISHED: March 13, 1992 (19920313)
INVENTOR(s): TAKAYANAGI YUTAKA
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 02-195577 [JP 90195577]
FILED: July 24, 1990 (19900724)
INTL CLASS: [5] G06F-009/06
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 1379, Vol. 16, No. 301, Pg. 36, July
03, 1992 (19920703)

ABSTRACT

PURPOSE: To completely extract the related changes by relating the items of a structured manual to the software specifications and storing these items in a **relational** data base.

CONSTITUTION: Four types of masters, i.e., a function item master (a), a specification master (b), a user master (b), and a module master (d) are registered and then **connected** to each **other** on a **relational data** base. Thus the **matrix tables** like the specification/module and user/module matrices, etc., can be easily prepared. Then it is possible to quickly and surely perform such manual control operations as the correction of a related manual in response to the change of specifications, the information of the correction, the distribution of the correction versions, etc.

13/5/15 (Item 15 from file: 347)
DIALOG(R)File 347:JAPIO
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03469073 **Image available**
DOCUMENT RETRIEVING DEVICE

PUB. NO.: 03-131973 [JP 3131973 A]
PUBLISHED: June 05, 1991 (19910605)
INVENTOR(s): OGAWA YASUTSUGU
APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 01-271158 [JP 89271158]
FILED: October 18, 1989 (19891018)
INTL CLASS: [5] G06F-015/40
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1246, Vol. 15, No. 347, Pg. 166,
September 03, 1991 (19910903)

ABSTRACT

PURPOSE: To attain proper retrieval by calculating an indirect relation degree between keywords to calculate document accuracy when there is no direct relation of keywords in a keyword connection table with a keyword in a retrieval condition expression.

CONSTITUTION: At the time of inputting a registered document 2, a keyword extraction part 1 extracts a keyword from the document and outputs the keyword and the registered document 2 to a document control part 3, a keyword connection table processing part 4 and an inverted file formation part 5. The control part 3 stores the keyword and documentary information 6 in a file 7 as a data base to be used for retrieval. The processing part 4 forms a keyword **connection table** describing **relational information** **between** keywords and stores the **table** in a file 8. When there is no direct relation between the keywords in a retrieval condition expression,

the relation between the keywords is searched plural times to calculate the degree of indirect relation and the document accuracy is calculated by using the degree of indirect relation to retrieve the document.

13/5/16 (Item 16 from file: 347)
DIALOG(R)File 347:JAPIO
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03126078 **Image available**
PICTURE RETRIEVING DEVICE

PUB. NO.: 02-101578 [JP 2101578 A]
PUBLISHED: April 13, 1990 (19900413)
INVENTOR(s): KIMURA JUN
APPLICANT(s): MITSUBISHI ELECTRIC CORP [000601] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-253884 [JP 88253884]
FILED: October 11, 1988 (19881011)
INTL CLASS: [5] G06F-015/40
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1072, Vol. 14, No. 313, Pg. 145, July 05, 1990 (19900705)

ABSTRACT

PURPOSE: To realize **hierarchical** retrieval easy to register by providing a parent and child menu **table** by describing relation to **another** picture **information** retrieving menu screen **correspondingly** to respective screen information retrieving menu screens.

CONSTITUTION: The parent and child menu table 25 is registered at every retrieving menu screen by using a keyboard 14. When a menu being displayed at present is made to be a present menu screen 24a, it consists of the parent menu picture No. of a parent menu screen 24b to be returned by a return key, the picture No. of brother menus of the brother menu screens 24c to be displayed successively by a following and a preceding page keys, and the number (n of child pictures 24d to be displayed by numerical value selection from the screen 24a. When the menu screen is designated to the child picture 24d by the keyboard 14, the child picture subordinate further to the child picture can be called out by the table 25 registered in the child picture 24d, and the **hierarchical** retrieval of the picture information can be performed.

13/5/17 (Item 17 from file: 347)
DIALOG(R)File 347:JAPIO
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03067035 **Image available**
METHOD AND DEVICE FOR FORMATION OF KNOWLEDGE BASE AND TROUBLE DIAGNOSTIC METHOD USING THE KNOWLEDGE BASE

PUB. NO.: 02-042535 [JP 2042535 A]
PUBLISHED: February 13, 1990 (19900213)
INVENTOR(s): MARUYAMA BUICHI
KAJI AKIRA
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-193698 [JP 88193698]
FILED: August 03, 1988 (19880803)
INTL CLASS: [5] G06F-009/44 ; G05B-023/02
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units); 22.3 (MACHINERY -- Control & Regulation)
JOURNAL: Section: P, Section No. 1041, Vol. 14, No. 201, Pg. 116, April 24, 1990 (19900424)

ABSTRACT

PURPOSE: To simplify the formation of a fault **tree** by separating with **hierarchy** the fault **tree** into a duplex **tree** group and an original

fault **tree** group and forming a knowledge base based on the fault **tree** .

CONSTITUTION: An original fault **tree** group is produced on a CRT screen with use of an input/output device connected to a fault **tree** input device 1. Then the **tree** group is evolved into a **hierarchical** knowledge base 3 and an on-line mapping table 4 by a fault **tree** data analyzing device 2. A mapping process mechanism 7 secures the **connection** between the knowledge **data** base variable stored in the **table** 4 and the address of a process data table 8 to produce the addressing process data and supplies this data to an on-line inference mechanism 5. The mechanism 5 performs an inference process based on the addressing process data supplied from the mechanism 7 and the base 3. An inference result output device 6 shows the inference result to an observer in an optimum format.

13/5/18 (Item 18 from file: 347)

DIALOG(R)File 347:JAPIO

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02753944 **Image available**

HIERARCHICAL CACHE DEVICE

PUB. NO.: 01-051544 [JP 1051544 A]

PUBLISHED: February 27, 1989 (19890227)

INVENTOR(s): YAMANO KOZO

APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)

APPL. NO.: 62-207382 [JP 87207382]

FILED: August 22, 1987 (19870822)

INTL CLASS: [4] **G06F-012/08 ; G06F-012/08**

JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units)

JOURNAL: Section: P, Section No. 883, Vol. 13, No. 253, Pg. 102, June
13, 1989 (19890613)

ABSTRACT

PURPOSE: To shorten a cache access time by deciding the validity of a first cache index data depending on a first directory index result and a second and a third directory index results, obtaining the second cache index data or index data from a main memory depending on the second directory index result in case the first cache index data is decided to be invalid.

CONSTITUTION: The titled device is provided with a first directory (L1AA) 3 managed by a logical address, a real address register (PAR) 7 to receive a real address, a second directory (L2AA) 10 managed by a logical address, a second directory (P2AA) 11 managed by a real address, and a **second data array** (P2DA) 12 **corresponding** to the second directory and a third directory. A flip-flop 20 detects a first cache index error, and reports to the source of a request that first cache index data is valid. A flip-flop 22 makes first cache index data invalid, and displays that a second cache index data is valid. Further, a flip-flop 23 displays that the first cache and the second cache indexed result is in error, and that a read from the main memory is necessary.

13/5/20 (Item 20 from file: 347)

DIALOG(R)File 347:JAPIO

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00872866 **Image available**

PARALLEL DATA PROCESSING SYSTEM DRIVEN BY **TREE** STRUCTURE DATA

PUB. NO.: 57-023166 [JP 57023166 A]

PUBLISHED: February 06, 1982 (19820206)

INVENTOR(s): KAWATO NOBUAKI

APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)

APPL. NO.: 55-097742 [JP 8097742]

FILED: July 17, 1980 (19800717)

INTL CLASS: [3] G06F-015/16 ; G06F-015/00
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 117, Vol. 06, No. 84, Pg. 155, May
22, 1982 (19820522)

ABSTRACT

PURPOSE: To uniform processing allotment among data processors by enabling information transmission and reception even within a predetermined range among **hierarchy** connection route switching devices.

CONSTITUTION: When an information transmission request arrives at an input and output controller 36 from a data processor of a higher **hierarchy**, the controller 36 checks the contents of a control table 41 through a control table controller 42 and, when finding some data processor of a lower **hierarchy**, writing the name of the data processor of the higher **hierarchy** in a queue set up **corresponding** to the **data** processor of the lower **hierarchy** in the control **table** 41. Then, a connector 43 is controlled transfer information from the data processor P22 of the higher **hierarchy** to one of data processors P(sub 2q)-P(sub 3r).

13/5/25 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013536921 **Image available**
WPI Acc No: 2001-021127/200103
XRPX Acc No: N01-016397

Network monitoring apparatus has processor which produces path circuit name database automatically, based on transmission information corresponding to every path circuit

Patent Assignee: FUJITSU LTD (FUJIT)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000295221	A	20001020	JP 9996604	A	19990402	200103 B

Priority Applications (No Type Date): JP 9996604 A 19990402

Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 2000295221 A 33 H04L-012/24

Abstract (Basic): JP 2000295221 A

NOVELTY - A processor (10) automatically produces a path circuit name database (6), corresponding to transmission apparatus information for every path circuit. The correspondence relation between the transmission apparatus included in alarm message information and collection apparatus serial number is stored in a rack information table (4). The collection apparatus (12-1) receives alarm message from the transmission apparatus, when failure is generated.

DETAILED DESCRIPTION - A path circuit area table (3) stores additional information pertaining to termination transmission apparatus corresponding to highest **hierarchy**. The **connection information between** all path circuit is stored in the circuit connection **table** (2) and name table (1) stores name defined to all path circuits.

USE - For monitoring operation condition of **hierarchical** network.

ADVANTAGE - Reduces process load greatly, since monitoring is automated. Coding conversion database can be produced even by users having no knowledge on all patterns.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of network monitoring apparatus.

Name table (1)
Circuit connection table (2)
Path circuit area table (3)
Rack information table (4)
Path circuit name database (6)
Processor (10)

Collection apparatus (12-1)
pp; 33 DwgNo 1/26
Title Terms: NETWORK; MONITOR; APPARATUS; PROCESSOR; PRODUCE; PATH; CIRCUIT
; NAME; DATABASE; AUTOMATIC; BASED; TRANSMISSION; INFORMATION; CORRESPOND
; PATH; CIRCUIT
Derwent Class: T01; W01; W02
International Patent Class (Main): H04L-012/24
International Patent Class (Additional): G06F-013/00 ; H04J-003/14;
H04L-012/26; H04L-029/14
File Segment: EPI

13/5/26 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013265485 **Image available**
WPI Acc No: 2000-437390/200038
XRPX Acc No: N00-327293

Mapping method of object oriented and relational database, involves
determining correspondence between access table and class by which
mapping is performed to access table, based on read management
information

Patent Assignee: KAWATETSU JOHO SYSTEM KK (KAWA-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000155706	A	20000606	JP 98329181	A	19981119	200038 B

Priority Applications (No Type Date): JP 98329181 A 19981119

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000155706	A		11 G06F-012/00	

Abstract (Basic): JP 2000155706 A

NOVELTY - Management information about a table in relational
database is read. Based on the read information, correspondence
between access table and class by which mapping is performed to the
access table, is determined.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for
mapping apparatus of object oriented and relational database.

USE - For mapping object oriented and relational database.

ADVANTAGE - Using object oriented language, on object is
registered, erased or updated in relational database.

pp; 11 DwgNo 1/18

Title Terms: MAP; METHOD; OBJECT; ORIENT; RELATED; DATABASE; DETERMINE;
CORRESPOND; ACCESS; TABLE; CLASS; MAP; PERFORMANCE; ACCESS; TABLE; BASED;
READ; MANAGEMENT; INFORMATION

Derwent Class: T01

International Patent Class (Main): G06F-012/00
International Patent Class (Additional): G06F-017/30
File Segment: EPI

13/5/27 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013110926 **Image available**
WPI Acc No: 2000-282797/200024

Related WPI Acc No: 1998-480748; 1998-483754; 1998-586314; 1998-586315;
1999-110780; 1999-180271; 1999-243510; 1999-468523; 1999-527168;
2000-375363; 2000-627615; 2001-006462; 2001-307267; 2001-366028;
2001-482282; 2001-512839

XRPX Acc No: N00-212849

Relational database extender for handling complex multimedia data
types, includes data tables having specific columns for defining unique
and common characteristics associated with an object

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: ANDERSON M P; CHENG J M; DONN S T; FALLSIDE D C; HA T Q; HEMBRY D
M; HO J C; JANG J; MATTOS N; NIBLACK C W; PETKOVIC D; TUNG F C; UHROWCZIK
P P; VO M P T; WILMOT G J; YANKER P C
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 6047291 A 20000404 US 95431513 A 19950501 200024 B
US 95548301 A 19951101
US 98114587 A 19980713

Priority Applications (No Type Date): US 95431513 A 19950501; US 95548301 A
19951101; US 98114587 A 19980713

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6047291	A		25	G06F-017/30	Cont of application US 95431513 Div ex application US 95548301 Div ex patent US 5799310

Abstract (Basic): US 6047291 A

NOVELTY - An application data table (312) having an user defined application database, has one column for storing a label for uniquely identifying an object **associated** with the **object data**, and **another** column for storing **data** type of the object data. Two other such **tables** contain respective columns for defining unique and common characteristics associated with the object.

DETAILED DESCRIPTION - One of the column in the second table contains the object identification label. One column in the third table contains the identification label for the object, and other column contains a reference to the object data associated with the object. A function corresponding to a complex data type, considers the object identification label as a parameter for manipulating the object data.

USE - For handling complex multimedia data types used for presentations, training, kiosk, interactive shopping, for decision support in retail buying or stock market analysis, video on demand, document management.

ADVANTAGE - Enables handling complex data types emerging from advanced applications such as multimedia, while maintaining application development productivity and reducing complexity.

DESCRIPTION OF DRAWING(S) - The figure shows interface between **relational** extender and application DBMS.

Application data table (312)
pp; 25 DwgNo 6/7

Title Terms: RELATED; DATABASE; EXTEND; HANDLE; COMPLEX; DATA; TYPE; DATA;
TABLE; SPECIFIC; COLUMN; DEFINE; UNIQUE; COMMON; CHARACTERISTIC;
ASSOCIATE; OBJECT

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

13/5/28 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012597959 **Image available**

WPI Acc No: 1999-404065/199934

XRPX Acc No: N99-301103

Categorized content retrieval apparatus for digital information providing system such as WWW

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: ZHAO Y

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5920864	A	19990706	US 97926206	A	19970909	199934 B

Priority Applications (No Type Date): US 97926206 A 19970909

Patent Details:

Abstract (Basic): US 5920864 A

NOVELTY - A category table (18) stores data identifying multiple categories that are descriptive headings relating to available data. Data relating to hierarchy relationship between categories and available data is stored in category bundling table (16). A manager (12) responds to user inquiry by providing information which indicates hierarchy relationships in category bundling table.

DETAILED DESCRIPTION - A file table (20) stores location, identity information, title and format type for available data. The category table includes an entry which indicates if the corresponding category is a terminate category. The category bundling table stores sub-category identifier for each identified category when associated item entry is not a terminate item and stores file identifier when associated item entry is a terminate item. The manager adds new categories to category table and updates category bundling table to correctly reflect newly added category. An INDEPENDENT CLAIM is also included for categorized information distributing method.

USE - For retrieving categorized content from WWW on internet.

ADVANTAGE - Allows user much freedom in navigating through the contents in order to find the desired information.

DESCRIPTION OF DRAWING(S) - The figure shows block diagram of categorized content retrieval system.

Manager (12)

Category bundling table (16)

Category table (18)

File table (20)

pp; 13 DwgNo 1/13

Title Terms: CONTENT; RETRIEVAL; APPARATUS; DIGITAL; INFORMATION; SYSTEM

Derwent Class: T01

International Patent Class (Main): G06F-017/00

File Segment: EPI

13/5/29 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012448395

WPI Acc No: 1999-254503/199921

SRPX Acc No: N99-189461

IP routing table routing look-up

Patent Assignee: EFFICIENT NETWORKING AB (EFFI-N); EFFNET GROUP AB (EFFN-N)

Inventor: BRODNIK A; CARLSSON S; DEGERMARK M; PINK S

Number of Countries: 083 Number of Patents: 010

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9914906	A1	19990325	WO 98SE854	A	19980511	199921	B
AU 9874631	A	19990405	AU 9874631	A	19980511	199933	
NO 200001309	A	20000502	WO 98SE854	A	19980511	200034	
			NO 20001309	A	20000314		
EP 1016245	A1	20000705	EP 98921991	A	19980511	200035	
			WO 98SE854	A	19980511		
SK 200000369	A3	20000912	WO 98SE854	A	19980511	200055	
			SK 2000369	A	19980511		
CZ 200000941	A3	20001011	WO 98SE854	A	19980511	200060	
			CZ 2000941	A	19980511		
CN 1270728	A	20001018	CN 98809142	A	19980511	200103	
US 6266706	B1	20010724	US 9862106	A	19980417	200146	N
KR 2001030607	A	20010416	KR 2000702749	A	20000315	200163	
JP 2001517024	W	20011002	WO 98SE854	A	19980511	200172	
			JP 2000512323	A	19980511		

Priority Applications (No Type Date): SE 973332 A 19970915; US 9862106 A 19980417

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9914906	A1	E	42	H04L-012/56	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 9874631	A				Based on patent WO 9914906
NO 200001309	A			H04L-000/00	
EP 1016245	A1	E		H04L-012/56	Based on patent WO 9914906
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT SE					
SK 200000369	A3			H04L-012/56	
CZ 200000941	A3			H04L-012/56	Based on patent WO 9914906
CN 1270728	A			H04L-012/56	
US 6266706	B1			G06F-015/173	
KR 2001030607	A			H04L-012/28	
JP 2001517024	W		46	H04L-012/56	Based on patent WO 9914906

Abstract (Basic): WO 9914906 A1

NOVELTY - The method involves accessing a base address at a location corresponding to the second index part (bix) of the IP address in an array of base addresses. A pointer is accessed at a location corresponding to the base address plus a pointer offset (six) of the code-word plus the map-table entry part in the array of pointers.

DETAILED DESCRIPTION - To find the proper pointer, the bit-vector is divided into bit-masks of length 16 and there are 4096 of those. Further, the position of a pointer in the array is obtained by adding three entities: a base index, a 6-bit offset and a 4-bit offset. Base index plus 6-bit offset determines where the pointers corresponding to a particular bit-mask are stored

An INDEPENDENT CLAIM is included for:

(a) a system for IP routing look-up in a routing table

USE - The invention relates to method and system of IP routing lookups in a routing **table**, comprising entries of arbitrary length prefixes with **associated next hop information** in a **next-hop table**, to determine where IP data grams are to be forwarded.

ADVANTAGE - The invention provides improved IP routing lookup method and system for performing full routing lookups for each IP packet up to gigabit speeds using a conventional microprocessor. Another objective is to minimize lookup time in the forwarding table. The invention further provides a data structure, which can fit entirely in the cache of a conventional microprocessor. Consequently, memory accesses will be orders magnitude faster than if the data structure needs to reside in memory consisting of, for example, relatively slow DRAM.

DESCRIPTION OF DRAWING(S) - The drawing is an illustrative view of a part of cut through prefix **tree** at depth 16.

pp; 42 DwgNo 6/11

Title Terms: IP; ROUTE; TABLE; ROUTE; UP

Derwent Class: T01; W01

International Patent Class (Main): **G06F-015/173** ; H04L-000/00; H04L-012/28 ; H04L-012/56

International Patent Class (Additional): **G06F-017/30**

File Segment: EPI

13/5/30 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012063837 **Image available**

WPI Acc No: 1998-480748/199841

Related WPI Acc No: 1998-483754; 1998-586314; 1998-586315; 1999-110780; 1999-180271; 1999-243510; 1999-468523; 1999-527168; 2000-282797; 2000-375363; 2000-627615; 2001-006462; 2001-307267; 2001-366028; 2001-482282; 2001-512839

XRFX Acc No: N98-375140

Computer readable storage medium for relational data base system - defines various kinds of tables for storing information relating to complex data type of object of corresponding object handle, in their respective columns

Patent Assignee: INT BUSINESS MACHINES CORP (IBM C)

Inventor: ANDERSON M P; CHENG J M; DONN S T; FALLSIDE D C; HA T Q; HEMBRY D M; HO J C; JANG J; MATTOS N; NIBLACK C W; PETKOVIC D; TUNG F C; UHROWCZIK P P; VO M P T; WILMOT G J; YANKER P C

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5799310	A	19980825	US 95431513	A	19950501	199841 B
			US 95548301	A	19951101	

Priority Applications (No Type Date): US 95431513 A 19950501; US 95548301 A 19951101

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5799310	A		24	G06F-017/30	Cont of application US 95431513

Abstract (Basic): US 5799310 A

The storage medium includes an application data table (312) with one of its column used for storing an object handle created by user for defining the complex data type of object. The column of a table is used for defining unique characteristics of an object and the object handle. The common characteristics of all objects are contained in one column of a table and reference of object data of the object is stored in its **another** column. Each **object** handle and its **associated** complex data type is stored in a new **table**.

The names of each defined object table is stored in a corresponding table. The location of the object data of corresponding deleted object handle is referred in the column of the respective table. The property of object is defined in the column of the specific table.

USE - Multimedia specialized in medical care, geographical systems, VOD and insurance.

ADVANTAGE - Improves user application development productivity. Reduces development complexity speeds up delivery of advanced function. Develops specialized data types, easily.

Dwg.6/7

Title Terms: COMPUTER; READ; STORAGE; MEDIUM; RELATED; DATA; BASE; SYSTEM; DEFINE; VARIOUS; KIND; TABLE; STORAGE; INFORMATION; RELATED; COMPLEX; DATA; TYPE; OBJECT; CORRESPOND; OBJECT; HANDLE; RESPECTIVE; COLUMN

Index Terms/Additional Words: STRUCTURED; QUERY; LANGUAGE

Derwent Class: T01; W04

International Patent Class (Main): G06F-017/30

File Segment: EPI

13/5/31 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012020029 **Image available**

WPI Acc No: 1998-436939/199837

Related WPI Acc No: 1997-132157

XRFX Acc No: N98-340479

Hypertext reporting method in relational database management system - generates hypertext links in documents with associative records in relational database tables, for cross-referencing purposes

Patent Assignee: BORLAND INT INC (BORL-N)

Inventor: HERRMANN C; TABB L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5787416	A	19980728	US 94283127	A	19940729	199837 B
			US 97796671	A	19970206	

Priority Applications (No Type Date): US 94283127 A 19940729; US 97796671 A

19970206

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5787416	A		47	G06F-017/30	Cont of application US 94283127 Cont of patent US 5603025

Abstract (Basic): US 5787416 A

The method involves receiving input specifying a first report which is based on information taken from a first subset of a set of **relational** database tables. The set of **relational** database tables includes records that provide access to stored information. The first report is a design document separate from the set of **relational** database tables and specifying display of a number of information items associated with records in the first subset of tables. Input specifying a second report is received which is based on information taken from a second subset of the set of **relational** database tables. the information items from the first and second report are combined into an hyper-text report. If information in the first report is **related** to **information** in the **second** report by virtue one of the second subset of **tables** with the particular field, an hypertext link is generated and the hypertext link is placed in the hypertext report for cross-referencing.

ADVANTAGE - Offers database-illiterate managers simple, direct on-line access not only to their usual reports, but also to related data needed to investigate and rectify discrepancies.

Dwg.7b/9

Title Terms: REPORT; METHOD; RELATED; DATABASE; MANAGEMENT; SYSTEM;
GENERATE; LINK; DOCUMENT; ASSOCIATE; RECORD; RELATED; DATABASE; TABLE;
CROSS; REFERENCE; PURPOSE

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

13/5/32 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011854701 **Image available**

WPI Acc No: 1998-271611/199824

Related WPI Acc No: 1996-160017

XRPX Acc No: N98-213362

Referential integrity maintenance method for RDBMS - involves associating individual referential integrity descriptors to master and detail tables specified by user requesting for referential integrity link between these two data tables

Patent Assignee: BORLAND INT INC (BORL-N)

Inventor: VIJAYKUMAR N

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5745896	A	19980428	US 94183619	A	19940118	199824 B
			US 96612638	A	19960308	

Priority Applications (No Type Date): US 94183619 A 19940118; US 96612638 A 19960308

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5745896	A		35	G06F-017/30	Cont of application US 94183619 Cont of patent US 5499359

Abstract (Basic): US 5745896 A

The method involves associating a first referential integrity descriptor with a detail table (630) specified by the user requesting for a referential integrity link between the detail table and a master table (610) also specified by the user. The master and detail tables have a field functioning as unique key and foreign key, respectively. The first descriptor stores information specifying the index of the

detail table that supports the foreign key, the master table and the field of detail table contributing to the foreign key. The transfer of detail table to a remote location causes the transfer of the first descriptor also. A second referential integrity descriptor is associated with the master table.

The **second** descriptor provides **information relating** to the fields of the master **table** contributing to unique key and the detail table for referential integrity link. The transfer of master table to remote location results in the transfer of second descriptor, too. When a request for modifying or deleting a record in the detail table is received, the possibilities of violation of requested referential integrity constraint are assessed by examining the two integrity descriptors.

ADVANTAGE - Is not limited to any particular application or environment and is applicable to DBMS, word processors, and spread sheets, on various platforms.

Dwg. 6/7

Title Terms: INTEGRITY; MAINTAIN; METHOD; ASSOCIATE; INDIVIDUAL; INTEGRITY; DESCRIBE; MASTER; DETAIL; TABLE; SPECIFIED; USER; REQUEST; INTEGRITY; LINK; TWO; DATA; TABLE

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

13/5/33 (Item 13 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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011854698 **Image available**

WPI Acc No: 1998-271608/199824

XRPX Acc No: N98-213359

Natural document classification system for patents - includes arrangement engine building symmetric matrices based on identified document arrangements in repository with fitness value used to identify optimal document arrangement

Patent Assignee: ELECTRONIC DATA SYSTEMS CORP (ELDA-N)

Inventor: HILL J R; THOMPSON G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5745893	A	19980428	US 95565806	A	19951130	199824 B

Priority Applications (No Type Date): US 95565806 A 19951130

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5745893	A	16	G06F-017/30	

Abstract (Basic): US 5745893 A

The classification system includes a document repository. An arrangement engine builds numerous symmetric matrices based upon numerous identified arrangements of the documents in the repository. Each symmetric matrix is structured such that each row and corresponding column are associated with a particular document. Each cell of each symmetric **matrix** is filled with a relevance value representing a relevance **between a document associated** with the row of the cell and a document associated with the column of the cell.

A fitness value is generated for each symmetric matrix based upon a magnitude and a position of each relevance value by analyzing each symmetric matrix using a fitness function. An optimal arrangement of the documents is identified based upon the fitness value of each symmetric matrix. An optimal arrangement of documents is provided as system output.

ADVANTAGE - Provides intuitive **hierarchy** .

Dwg. 4/4

Title Terms: NATURAL; DOCUMENT; CLASSIFY; SYSTEM; PATENT; ARRANGE; ENGINE; BUILD; SYMMETRICAL; MATRIX; BASED; IDENTIFY; DOCUMENT; ARRANGE; REPOSITORY; FIT; VALUE; IDENTIFY; OPTIMUM; DOCUMENT; ARRANGE

Derwent Class: T01
International Patent Class (Main): G06F-017/30
File Segment: EPI

13/5/34 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011553044 **Image available**
WPI Acc No: 1997-529525/199749
XRPX Acc No: N97-441081

Generation of telecommunications message - has table linking message elements to physical memory location and program that reads table to direct memory reads and to assemble message

Patent Assignee: TRT TELECOM RADIOELEC TEL SA (TRTT)

Inventor: SACHY J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2747487	A1	19971017	FR 964974	A	19960415	199749 B

Priority Applications (No Type Date): FR 964974 A 19960415

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
FR 2747487	A1	18	G06F-012/02	

Abstract (Basic): FR 2747487 A

The message generation procedure commences with storing in a **table** (3) **data** establishing the **correspondence between** the physical addresses where the data items are stored and the binary position of the data (6') in the message. A program (5) is implemented to execute a sequence of instructions to generate the message.

Data is read from the correspondence table to allow reading of binary information from its physical address. The program then assembles the data in the correct position of the message. A **hierarchic** structure may be created in the table to allow use of classes in the message formulation.

ADVANTAGE - Simpler and more reliable assembly of message from binary data stored at different addresses.

Dwg.1/3

Title Terms: GENERATE; TELECOMMUNICATION; MESSAGE; TABLE; LINK; MESSAGE; ELEMENT; PHYSICAL; MEMORY; LOCATE; PROGRAM; READ; TABLE; DIRECT; MEMORY; READ; ASSEMBLE; MESSAGE

Derwent Class: T01

International Patent Class (Main): G06F-012/02

File Segment: EPI

13/5/35 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011154233 **Image available**
WPI Acc No: 1997-132157/199712
Related WPI Acc No: 1998-436939
XRPX Acc No: N97-109181

Hypertext report generating method in relational database management system - involves generating hypertext link and placing hypertext link in hypertext report for cross-referencing, If information in first report is related to information in second report

Patent Assignee: BORLAND INT INC (BORL-N)

Inventor: HERRMANN C; TABB L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5603025	A	19970211	US 94283127	A	19940729	199712 B

Priority Applications (No Type Date): US 94283127 A 19940729

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
US 5603025 A 50 G06F-017/30

Abstract (Basic): US 5603025 A

The method involves receiving input specifying a first report which is based on information taken from a first subset of a set of **relational** database tables. The set of **relational** database tables includes records that provide access to stored information. The first report is a design document separate from the set of **relational** database tables and specifying display of a number of information items associated with records in the first subset of tables. Input specifying a second report is received which is based on information taken from a second subset of the set of **relational** database tables. the information items from the first and second report are combined into an hyper-text report. If information in the first report is **related** to **information** in the **second** report by virtue one of the second subset of **tables** with the particular field, an hypertext link is generated and the hypertext link is placed in the hypertext report for cross-referencing.

ADVANTAGE - Offers database-illiterate managers simple, direct on-line access not only to their usual reports, but also to related data needed to investigate and rectify discrepancies.

Dwg.7b/9

Title Terms: REPORT; GENERATE; METHOD; RELATED; DATABASE; MANAGEMENT;
SYSTEM; GENERATE; LINK; PLACE; LINK; REPORT; CROSS; REFERENCE;
INFORMATION; FIRST; REPORT; RELATED; INFORMATION; SECOND; REPORT

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

13/5/36 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010593306 **Image available**

WPI Acc No: 1996-090259/199610

XRPX Acc No: N96-075551

Data retriever for database management - has tree block diagram generator which produces tree block diagram based on connection information between item read from each item registered in table format

Patent Assignee: TOSHIBA KK (TOKE)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 7296004	A	19951110	JP 9486267	A	19940425	199610 B

Priority Applications (No Type Date): JP 9486267 A 19940425

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 7296004 A 7 G06F-017/30

Abstract (Basic): JP 7296004 A

The device has an item attribute table (13) which memorises the item attribute information that contains the storing position of a data file for every item. It also has a **tree** composition table (14) which memorises other items such as the **tree** name of a **tree** that belongs for every item.

An item reference (22) searches the item from the item attribute table, which corresponds to the item attribute information input. On the other hand, a **tree** name reference (23) searches for the **tree** name of the **tree** from the **tree** composition table. Furthermore, a **tree** block diagram generator (24) produces the **tree** block diagram based on the **connection information between** items read from each item of the **tables** while a **tree** block diagram display controller

(25) carries out the display operation of the produced **tree** block diagram on a cathode ray tube (20).

ADVANTAGE - Simplifies editing of **tree** composition and production for easy database management due to **tree** block diagram generator and **tree** block diagram display controller.

Dwg.1/6

Title Terms: DATA; RETRIEVAL; DATABASE; MANAGEMENT; **TREE** ; BLOCK; DIAGRAM; GENERATOR; PRODUCE; **TREE** ; BLOCK; DIAGRAM; BASED; CONNECT; INFORMATION; ITEM; READ; ITEM; REGISTER; TABLE; FORMAT

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

13/5/37 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010421383 **Image available**

WPI Acc No: 1995-322699/199542

SRPX Acc No: N95-242922

Database join processing system - joins relations based on join fields in relational database

Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ)

Inventor: MATSUMOTO T

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2287807	A	19950927	GB 952768	A	19950213	199542 B
JP 7253991	A	19951003	JP 9445620	A	19940316	199548
US 5613142	A	19970318	US 95388616	A	19950214	199717
GB 2287807	B	19980506	GB 952768	A	19950213	199820

Priority Applications (No Type Date): JP 9445620 A 19940316

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2287807	A	124		G06F-007/32	
JP 7253991	A	24		G06F-017/30	
US 5613142	A	48		G06F-007/08	
GB 2287807	B			G06F-007/32	

Abstract (Basic): GB 2287807 A

The system joins distributed data with a join key and produces a joined table (100,200). Recording devices, disk drives (4a-4d) store the distributed data e.g. employee data (5a-5d) and sales data (6a-6d). Slave-processors (3a-3d) are coupled to the recording devices to retrieve the data and output the data. The main processor (1) receives the data from the slave-processors and produces the joined table.

Each slave-processor checks a join key of the second data, sales data, with a join key of the first data. Based on the checking result it selects the second data (400a-400d) and outputs the data to the main processor.

USE/ADVANTAGE - Provides high speed joining, eliminates burden on master processor as data distributed and stored in slave processors, part of join processing done in parallel.

Dwg.3/23

Title Terms: DATABASE; JOIN; PROCESS; SYSTEM; JOIN; RELATED; BASED; JOIN; FIELD; RELATED; DATABASE

Derwent Class: T01

International Patent Class (Main): **G06F-007/08 ; G06F-007/32 ; G06F-017/30**

International Patent Class (Additional): **G06F-007/14 ; G06F-007/36 ; G06F-012/00 ; G06F-012/04**

File Segment: EPI

13/5/38 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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009440464 **Image available**
WPI Acc No: 1993-133983/199316
XRPX Acc No: N93-102192

Computer system for storing, retrieving and modifying data stored in database - manipulates directed graph data structures stored in relational database each comprising one or more records of data interconnected by pointers and stored in form of two-dimensional tables e.g. base tables

Patent Assignee: XIDAK INC (XIDA-N)
Inventor: GOLDBERG R N; JIRAK G A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5201046	A	19930406	US 90542163	A	19900622	199316 B

Priority Applications (No Type Date): US 90542163 A 19900622

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5201046	A	24	G06F-015/419	

Abstract (Basic): US 5201046 A

The database management system (DBMS) stores retrieves and manipulates directed graph data structures in a **relational** database. Each directed graph data structure contains one or more records of data which are interconnected by pointers. Data is stored in the database in the form of two dimensional tables, also known as flat files. The DBMS defines a schema for each table in the database. The schema defines the name and data type of each column in a data-base table. In tables used to store directed graph data structures, at least one column will be defined as having a reference data type. Non-empty entries in that column are pointers to rows in a specified table.

Directed graph data structures are stored in specified tables by storing each record of the directed graph in a distinct row of one of the specified **tables**, with references **corresponding** to interconnections **between records** stored in reference data type columns. Portions of a directed graph are retrieved from the specified table, in accordance with a single specified query. The query is automatically expanded by retrieving additional portions of the table which are referenced by the previously retrieved portions, thereby performing a transitive closure. The retrieved data is stored in a buffer as a list of rows, and then communicated to an application process. An interface program converts the list of rows stored in the buffer into a directed graph data structure.

USE/ADVANTAGE - Storing and retrieving directed graph data structures in **relational** database, reduces complexity of engineering application programs, reduces system resources required to process single reduces system resources required to process single extended query.

, a
Dwg.3/8

Title Terms: COMPUTER; SYSTEM; STORAGE; RETRIEVAL; MODIFIED; DATA; STORAGE; DATABASE; MANIPULATE; DIRECT; GRAPH; DATA; STRUCTURE; STORAGE; RELATED; DATABASE; COMPRISE; ONE; MORE; RECORD; DATA; INTERCONNECT; POINT; STORAGE; FORM; TWO; DIMENSION; TABLE; BASE; TABLE

Derwent Class: T01

International Patent Class (Main): G06F-015/419

File Segment: EPI

13/5/39 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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009166769 **Image available**
WPI Acc No: 1992-294203/199236

XRFX Acc No: N92-225385

Computer aided system design method - using system level automation tool
with computer to generate sets of objects each defining portion of system
wherein each object has child objects

Patent Assignee: TEXAS INSTR INC (TEXI)

Inventor: AMUNDSEN M; BURKS H L; HUTCHINSON K K; SHAW R W; STRASBURG D D;

TALBOTT M T; HUTCHISON K K

Number of Countries: 007 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 501781	A2	19920902	EP 92301623	A	19920226	199236 B
US 5355317	A	19941011	US 91661042	A	19910226	199440
US 5357440	A	19941018	US 91661356	A	19910226	199441
			US 92966128	A	19921023	
EP 501781	A3	19941019	EP 92301623	A	19920226	199534
US 5500800	A	19960319	US 91661360	A	19910226	199617
			US 92965984	A	19921023	
			US 94349700	A	19941205	
TW 432292	A	20010501	TW 92103766	A	19920515	200168

Priority Applications (No Type Date): US 91661360 A 19910226; US 91661042 A
19910226; US 91661356 A 19910226; US 92966128 A 19921023; US 92965984 A
19921023; US 94349700 A 19941205

Cited Patents: No-SR.Pub; 2.Jnl.Ref; US 4635208

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 501781	A2	E	29	G06F-015/60	
Designated States (Regional): DE FR GB IT NL					
US 5355317	A		22	G06F-015/60	
US 5357440	A		21	G06F-015/20	Cont of application US 91661356
EP 501781	A3			G06F-015/60	
US 5500800	A		21	G06F-019/00	Cont of application US 91661360 Cont of application US 92965984
TW 432292	A			G06F-015/46	

Abstract (Basic): EP 501781 A

The system level automation tool using a computer is operable to
generate a first set of objects each defining a portion of the system.
The objects have a parent-child relationship wherein one or more child
objects each define a portion of the parent object.

A second set of implementable objects is associated with the first
set of objects using a transitional mapping (TRAM) describing the
relationship between the first and second sets of objects.

USE/ADVANTAGE - In computer aided design of systems. Computer
system automation tool for system level engineers. Mappings of
functional requirements to implementable concepts may be identified and
documented, along with preserving traceability of structural and
allocatable requirements through system design.

Dwg.5/12

Title Terms: COMPUTER; AID; SYSTEM; DESIGN; METHOD; SYSTEM; LEVEL;
AUTOMATIC; TOOL; COMPUTER; GENERATE; SET; OBJECT; DEFINE; PORTION; SYSTEM
; OBJECT; CHILD; OBJECT

Derwent Class: T01

International Patent Class (Main): G06F-015/20 ; G06F-015/46 ;
G06F-015/60 ; G06F-019/00

International Patent Class (Additional): G06F-015/00 ; G06F-015/21 ;
G06F-017/50

File Segment: EPI

13/5/40 (Item 20 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008029356 **Image available**

WPI Acc No: 1989-294468/198941

XRFX Acc No: N89-224603

Technique for implementing computerised relational database - involves

generation of state information and storing of that information as number of packed descriptions

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: CHANG P Y; COYLE D J; HOWIE L D; LINDSAY B G; CHANG P Y T

Number of Countries: 012 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 336580	A	19891011	EP 89302577	A	19890316	198941 B
BR 8901647	A	19891121				199001
CN 1037045	A	19891108				199033
CA 1304506	C	19920630	CA 593250	A	19890309	199232
EP 336580	A3	19920902	EP 89302577	A	19890316	199338

Priority Applications (No Type Date): US 88179348 A 19880408

Cited Patents: No-SR.Pub; 3.Jnl.Ref

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 336580	A	E 9		

Designated States (Regional): BE CH DE FR GB IT LI NL SE

CA 1304506 C G06F-015/40

Abstract (Basic): EP 336580 A

A technique for implementing a computerised **relational** database system comprises generating state information defining the **relational** database and storing the state information as a number of packed descriptions. The packed descriptions are provided as a column in a **table**, each entry contains data defining attributes **associated** with a **different object** and its components. Accessing a row corresponding to a particular object returns a description of all of the attributes of the objects components as well as a description of the object itself.

The packed description information is redundantly stored in other system catalogs for use in querying physical object definitions consistent with other database products. The database state information is retained in internal format, the correlative redundant information is in a user-readable external format.

USE/ADVANTAGE - **Relational** Databases particularly those accessed by data manipulation language statements. Technique results in reduction of time required for compiling statements which reference objects, it also results in reduction of I/O operators when compiling statement.

Title Terms: TECHNIQUE; IMPLEMENT; COMPUTER; RELATED; DATABASE; GENERATE; STATE; INFORMATION; STORAGE; INFORMATION; NUMBER; PACK; DESCRIBE

Derwent Class: T01

International Patent Class (Main): G06F-015/40

File Segment: EPI

13/5/41 (Item 21 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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003924729

WPI Acc No: 1984-070273/198412

XRPX Acc No: N84-053027

Inverse assembler for logic analyser - uses interlinked instruction family tree system and random access memory

Patent Assignee: TEKTRONIX INC (TEKT)

Inventor: HOEREN G H; PETTET M E

Number of Countries: 005 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3332832	A	19840315	DE 3332832	A	19830912	198412 B
GB 2126761	A	19840328	GB 8321900	A	19830815	198413
NL 8303116	A	19840402				198417
CH 660242	A	19870331				198715
GB 2126761	B	19870708				198727
US 4694420	A	19870915	US 85814152	A	19851223	198739

Priority Applications (No Type Date): US 82417014 A 19820913

Patent Details:

Patent No	Kind	Lang	Pg	Main IPC	Filing Notes
DE 3332832	A		34		

Abstract (Basic): GB 2126761 A

An inverse assembler for converting the code associated with a stored program into a corresponding set of mnemonics for interpretation thereof by a user, comprising: a first storage device receiving conversion information and storing said conversion information therein in the form of a set of decision **tree** tables, a first of said decision **tree** tables including entries for a portion of said code containing mnemonic information corresponding thereto, and containing information indicating a location in said first storage device wherein a second of said decision **tree** tables is stored, said second decision **tree table** including entries for said code containing mnemonic **information corresponding** to a **different** portion of said code; a second storage device storing said code associated with said stored program; said first storage device connected to receive said code stored in said second storage device, said first storage device correlating said code stored in said second storage device with a corresponding set of conversion information stored in said first storage device by providing a combination of mnemonic information from said tables in response to portions of code stored in said second storage device; a display device connected to acquire said corresponding set of said conversion information from the first storage device and for presenting said corresponding set of conversion information to said user for interpretation thereof; a processing device storing said conversion information in said first storage device and controlling provision of said combination of mnemonic information from said tables therein according to a set of instructions executed by said processing device; and a third storage device storing said set of instructions executed by said processing device.

DE 3332832 A

The mnemonic assembler code is produced from machine code in order to test the system software. This reduces the time necessary for assembling the required look-up table in a logic analyser. It is achieved by the user following an interlinked **hierarchical** instruction 'family **tree** ' system.

A central processor unit processes the instruction retrieved from the read only memory via the buffer register according to the keyboard entry and generates the corresponding control signal. A random access memory stores the tables in decision **tree** form. The codes are displayed via a character generator on the monitor.

0/6

Title Terms: INVERSE; ASSEMBLE; LOGIC; ANALYSE; INTERLINKED; INSTRUCTION; FAMILY; **TREE** ; SYSTEM; RANDOM; ACCESS; MEMORY

Index Terms/Additional Words: RAM

Derwent Class: T01

International Patent Class (Additional): G06F-005/00 ; G06F-009/06 ;

G06F-015/00

File Segment: EPI

16/5/5 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO
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06089631 **Image available**
DATA MANAGEMENT SYSTEM HAVING **TREE** STRUCTURE

PUB. NO.: 11-031147 [JP 11031147 A]
PUBLISHED: February 02, 1999 (19990202)
INVENTOR(s): ITO ARINORI
APPLICANT(s): TOSHIBA CORP
APPL. NO.: 09-185407 [JP 97185407]
FILED: July 10, 1997 (19970710)
INTL CLASS: **G06F-017/30**

ABSTRACT

PROBLEM TO BE SOLVED: To simplify the reconstitution work of **tree** structure by completing the change of **tree** structure only by means of exchanging the numbers of nodes associated to the respective nodes.

SOLUTION: A data management system 1 having **tree** structure is provided with the plural nodes 2 arranged in positions corresponding to the parentage and the fraternal relation, plural connection lines 3 connecting the respective nodes 2 and plural relation descriptors generated for the respective nodes 2. The node numbers are added to the respective nodes 2 so that all numbers become unique and the relations of the respective node numbers are collected for the respective nodes 2. Then, the relation descriptors are generated. The relation descriptors are collected and a relation description table is generated. At the time of adding the new node 2 and deleting the node 2 which becomes unnecessary, the change of **tree** structure 5 is completed only by exchanging the node numbers corresponding to the added node 2 and the deleted node 2 among the respective **node** numbers in the **relation** description **table**.

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16/5/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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05878890 **Image available**
DATA INTEGRATING PROCEDURE DETERMINING METHOD, AND MANUFACTURE PROCEDURE DETERMINING MEANS FOR ARTICLES APPLYING THE SAME

PUB. NO.: 10-161990 [JP 10161990 A]
PUBLISHED: June 19, 1998 (19980619)
INVENTOR(s): MUNAKATA KOICHI
APPLICANT(s): MITSUBISHI ELECTRIC CORP [000601] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 08-324034 [JP 96324034]
FILED: December 04, 1996 (19961204)
INTL CLASS: [6] **G06F-017/00**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)

ABSTRACT

PROBLEM TO BE SOLVED: To generate a process representation **tree** in a short time by generating the process representation **tree** representing an executable manufacture procedure by modifying a dependency graph obtained from an initial graph.

SOLUTION: An initial essential node selecting means of step ST11 in step ST1 selects a node, which is a final node among supply nodes or process nodes and outputs a necessary component without fail, the selected node is regarded as an initial essential **node**, and a **node** **connecting** means of step ST12 generates a variable **table**. **Nodes** are generated **corresponding** to respective element processes except an end node. A directional branch is generated from a node corresponding to a process

which selects variables in order and uses the variables as output variables to a node corresponding to a process which uses the variables as input variables. A dependence graph generating means of a step ST2 modifies the initial graph into the dependency graph and a process representation **tree** generating procedure of step ST3 modifies the dependency graph into the process representation **tree** representing the executable manufacture procedure.

16/5/8 (Item 8 from file: 347)

DIALOG(R)File 347:JAPIO

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05748579 **Image available**

DATABASE MANAGEMENT DEVICE AND NETWORK- **TREE** STRUCTURE CONVERSION METHOD

PUB. NO.: 10-031679 [JP 10031679 A]

PUBLISHED: February 03, 1998 (19980203)

INVENTOR(s): ITO FUMIHISA

APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 08-186050 [JP 96186050]

FILED: July 16, 1996 (19960716)

INTL CLASS: [6] **G06F-017/30 ; G06F-012/00**

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.2 (INFORMATION PROCESSING -- Memory Units)

ABSTRACT

PROBLEM TO BE SOLVED: To easily recognize the data and their connection weight by producing a network structure model based on the information showing the network relation and the information obtained by giving the weighting to the line to which the identification information on those data are connected as nodes.

SOLUTION: The information on the manuals of systems related with each other like a network is stored in a database storage part 1 and also the weight information on the stored information is inputted to the part 1 by an operator. When the data identification information are connected to each other in a line with these identification information defined as nodes, the weighting is also given to the line based on a prescribed rule. Then the weighted line is stored in a network structure/weight information storage means 2 as an information **table**. A network structure model production means 3 **connects** the **nodes** together in a line and also produces the display information on a structure model diagram including the weight display based on the information stored in the means 2. Based on this display information, an output control means 4 outputs the network structure model diagram via an output means 5.

16/5/10 (Item 10 from file: 347)

DIALOG(R)File 347:JAPIO

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05066905 **Image available**

MANAGEMENT SYSTEM FOR **RELATIONAL** DATA BASE

PUB. NO.: 08-022405 [JP 8022405 A]

PUBLISHED: January 23, 1996 (19960123)

INVENTOR(s): YOSHIDA NOBURU

APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 06-155974 [JP 94155974]

FILED: July 07, 1994 (19940707)

INTL CLASS: [6] **G06F-012/00 ; G06F-017/30**

JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units); 45.4 (INFORMATION PROCESSING -- Computer Applications)

JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessors)

ABSTRACT

PURPOSE: To understand the **relational** data base as three-dimensional structure and to enable generation management by record by incorporating the concept of records in the **relational** data base.

CONSTITUTION: To alter route data, an alteration instruction for the route data is inputted on the keyboard 12 of a personal computer 1 together with a valid date on the basis of the alteration specifications of the route data. Consequently, a control part 11 retrieves a reference consistency **table** 21 to confirm whether or not an object attribute has **parent - child relation**. As a result of this confirmation, it is judged that the route name of the route data in a **relational** data base 22b as a parent attribute and the route name of station data in a **relational** data base 22a as a child attribute are altered. According to this judgement, the control part 11 updates the tuple of the corresponding route data in the **relational** data base 22b and the tuple of the corresponding station data in the **relational** data base 22a on the basis of the valid date.

16/5/11 (Item 11 from file: 347)

DIALOG(R)File 347:JAPIO

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04800826 **Image available**

DATA PROCESSOR

PUB. NO.: 07-093426 [JP 7093426 A]

PUBLISHED: April 07, 1995 (19950407)

INVENTOR(s): KURIHARA TAKASHI

APPLICANT(s): CASIO COMPUT CO LTD [350750] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 05-187619 [JP 93187619]

FILED: June 30, 1993 (19930630)

INTL CLASS: [6] **G06F-019/00** ; **G06F-017/21**

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)

JAPIO KEYWORD:R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessors)

ABSTRACT

PURPOSE: To classify and totalize records in **hierarchical** structure based on definition contents by only defining a totalization object, etc., in **hierarchical** structure corresponding to a totalization level and defining partial alternations of the **hierarchical** structure.

CONSTITUTION: A **table** structure analytic part 5 analyzes a **table** A, discriminates the **parent - child relation** of totalization records based on totalization levels made to correspond respective record names, and also alters the parent-child relation according to the definition of alterations of totalization levels if the alterations are defined in the table A. A development totalization processing part 11 reads data corresponding to the totalization object out of a specific file based on the table A, totalizes them in totalization records having corresponding record names in the table A, and also totalizes the totalization results in a totalization record having a record name of higher level.

16/5/13 (Item 13 from file: 347)

DIALOG(R)File 347:JAPIO

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04322510 **Image available**

HIERARCHICAL MANAGEMENT DATA PREPARATION SYSTEM

PUB. NO.: 05-314210 [JP 5314210 A]

PUBLISHED: November 26, 1993 (19931126)

INVENTOR(s): SUZUKI MASAHIRO

APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 03-060848 [JP 9160848]

FILED: January 31, 1991 (19910131)

INTL CLASS: [5] **G06F-015/60** ; H01L-021/82
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 42.2
(ELECTRONICS -- Solid State Components)
JOURNAL: Section: P, Section No. 1704, Vol. 18, No. 132, Pg. 90, March
04, 1994 (19940304)

ABSTRACT

PURPOSE: To prepare **hierarchical** management data at high speed by decreasing the number of times for deciding the present/absent parts numbers of slave parts in a parts list by expressing the **parent relation** of master parts and slave parts through a pointer **array** .

CONSTITUTION: A parts list preparing means 21a just once registers slave parts names to be used in common among plural parts on a slave parts list. A **hierarchical** data preparing means 20a is provided with a pointer array preparing means 24 to install the pointer array showing the relation of master parts and slave parts between the parts list and the slave parts list. Input parts data to be applied at random are registered on the parts list, and the slave parts to be used among those parts are registered on the slave parts list. The parent relation of parts points the slave parts in the slave parts list from the parts list through the pointer array. In this case, when the same slave part is used in common for plural parts, the slave part is just once registered on the slave parts list and pointed from the plural parts in the parts list through the pointer array.

16/5/14 (Item 14 from file: 347)
DIALOG(R)File 347:JAPIO
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04241693 **Image available**
SYSTEM FOR PROCESSING **HIERARCHICAL** STRUCTURE DATA

PUB. NO.: 05-233393 [JP 5233393 A]
PUBLISHED: September 10, 1993 (19930910)
INVENTOR(s): KUSHIDA YASUHIRO
APPLICANT(s): NIPPON DENKI JOHO SERVICE KK [000000] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-033867 [JP 9233867]
FILED: February 21, 1992 (19920221)
INTL CLASS: [5] **G06F-012/00**
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units)
JOURNAL: Section: P, Section No. 1663, Vol. 17, No. 692, Pg. 80,
December 17, 1993 (19931217)

ABSTRACT

PURPOSE: To facilitate the preparation of application program and to reduce the load thereof by registering inter-data relations as a membership relation, thereby simplifying the data structure and performing forward expansion and reverse expansion only with the change of an access key.

CONSTITUTION: This system is provided with an article table 11 storing the name, the property, the attribute, etc., of each article, constitution **table** 12 storing constitution **relations** to be (a **parent** article code).(a child article code) or (a child article code).(a parent article code) as the access key against the constitution relation of two articles and a processing means by which the constitution relation is retrieved from the parts constitution table 12 and which **hierarchically** expands parts by imparting the article code executing parts development. A parts expansion table 13 having a **hierarchical** structure is obtained by this processing means.

16/5/17 (Item 17 from file: 347)
DIALOG(R)File 347:JAPIO
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03677273 **Image available**
TREE STRUCTURE DISPLAY DEVICE

PUB. NO.: 04-042373 [JP 4042373 A]
PUBLISHED: February 12, 1992 (19920212)
INVENTOR(s): KUBO HIDEYUKI
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 02-149365 [JP 90149365]
FILED: June 07, 1990 (19900607)
INTL CLASS: [5] G06F-015/60 ; G06F-003/14 ; G06F-009/06
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.1
(INFORMATION PROCESSING -- Arithmetic Sequence Units); 45.3
(INFORMATION PROCESSING -- Input Output Units)
JOURNAL: Section: P, Section No. 1358, Vol. 16, No. 220, Pg. 17, May
22, 1992 (19920522)

ABSTRACT

PURPOSE: To display well-balanced **tree** structure by efficiently using a display space by arranging nodes by using weight provided for each node constituting the **tree** structure.

CONSTITUTION: Based on an input command, a coordinate calculation part 10 calculates the coordinates of the node on a display screen based on the weight to be allocated **corresponding** to the kind of the **node** constituting the **tree** structure, and a node control **table** 11 holds the coordinate information of the node calculated by the coordinate calculation part 10. A graphic library 12 holds the shape of a graphic expressing parental relation between the nodes. Based on the coordinates of the node calculated by the coordinate calculation part 10, a drawing part 13 draws the graphic expressing the node on the display screen. Thus, the well-balanced **tree** structure can be displayed by efficiently using the display space.

16/5/19 (Item 19 from file: 347)
DIALOG(R)File 347:JAPIO
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03415188 **Image available**
NETWORK SYSTEM GENERATION AND DISPLAY DEVICE

PUB. NO.: 03-078088 [JP 3078088 A]
PUBLISHED: April 03, 1991 (19910403)
INVENTOR(s): TAKIGUCHI NOBUO
SUMIDA MASATO
APPLICANT(s): MITSUBISHI ELECTRIC CORP [000601] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-214169 [JP 89214169]
FILED: August 22, 1989 (19890822)
INTL CLASS: [5] G06F-015/60 ; G06F-003/14
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.3
(INFORMATION PROCESSING -- Input Output Units)
JOURNAL: Section: P, Section No. 1219, Vol. 15, No. 247, Pg. 15, June
25, 1991 (19910625)

ABSTRACT

PURPOSE: To easily manage data by generating an extended **tree** with a parent-child or fraternal relationship to define suitable data as a root.
CONSTITUTION: A data system generator 2 generates data required for displaying the extended **tree** from the ID of data in a relationship storage device 1 and the ID of a relative node. A recognition and registration step 9 retrieves the suitable data as the root of the **tree** from the device 1 by root recognition 4 and registers the data to a node management table 7 as the node of a level 1. In arrangement determination 8, arrangement is determined by using a bus network and paying attention to the fraternal **relationship**. By using the **node** management **table** prepared by the generator 2, the **tree** is displayed by a network display device to express the parent-child relationship by a straight line and to express the fraternal relationship by a circular arc. Thus, since a

relationship between data is displayed so as to be easily discriminated in the form of the **tree**, the data can be easily managed.

16/5/20 (Item 20 from file: 347)
DIALOG(R)File 347:JAPIO
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02848122
INTER-WORD SEMANTIC RELATION DECIDING SYSTEM

PUB. NO.: 01-145722 [JP 1145722 A]
PUBLISHED: June 07, 1989 (19890607)
INVENTOR(s): ONOYAMA TAKASHI
APPLICANT(s): HITACHI SOFTWARE ENG CO LTD [472485] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 62-305377 [JP 87305377]
FILED: December 01, 1987 (19871201)
INTL CLASS: [4] **G06F-007/28** ; **G06F-015/20**
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);
45.2 (INFORMATION PROCESSING -- Memory Units); 45.4
(INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 929, Vol. 13, No. 403, Pg. 117,
September 07, 1989 (19890907)

ABSTRACT

PURPOSE: To decide at a high speed the semantic relation between words, which is expressed by a **tree** structure data by comparing large and small **relations** of the number of lower **nodes** of each node which is stored in a semantic **table**, in accordance with a search rank order and deciding an inclusive relation of semantics between words.

CONSTITUTION: The title system is provided with a semantic table for coordinating each word to each node of a **tree**, linking between each node, executing a search of each node of a **tree** structure data by a depth priority search in advance with respect to the **tree** structure data which has expressed a semantic relation between words, deriving the number of lower nodes contained in the lower rank of each node, and storing the number of lower nodes in accordance with a search rank order of each node. Accordingly, an inclusive relation of each node can be decided by comparing the numerical values of large and small relations of a rank order of a **table** data, and large and small **relations** of the number of lower **nodes** stored in accordance with its rank order and the rank order difference, by which an inclusive relation of semantics between words can be decided at a high speed.

16/5/22 (Item 22 from file: 347)
DIALOG(R)File 347:JAPIO
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02556240 **Image available**
GENERATING METHOD FOR DATA WITH MULTIPLE STAGE TABLE STRUCTURE

PUB. NO.: 63-173140 [JP 63173140 A]
PUBLISHED: July 16, 1988 (19880716)
INVENTOR(s): KAWAGUCHI HIROSHI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 62-005602 [JP 875602]
FILED: January 13, 1987 (19870113)
INTL CLASS: [4] **G06F-012/00** ; **G06F-007/22**
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units); 45.1
(INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 791, Vol. 12, No. 451, Pg. 7,
November 28, 1988 (19881128)

ABSTRACT

PURPOSE: To easily generate a data with multiple stage table structure, by generating a bi-sected **tree** file by inputting a file in which a bit of terminal information and the corresponding index of a table at each stage make a pair.

CONSTITUTION: On a source file 1, the index (f) of the table 5-1, the index (s) of the table 5-2, and the bit of terminal information 5-3 are described as the pair at every row. A bi-sected **tree** structure conversion means 2 reads the file row by row, and generates the bi-sected **tree** file 3 and a terminal information file 5-3. In this case, the **node** of a bi-sected **tree** **corresponding** to the **table** 5-1 is retrieved, and a new node is added at need, and next, the **node** of the bi-sected **tree** **corresponding** to the **table** 5-2 is retrieved, and the new node is added. And the node address of the bi-sected **tree** is received as an argument, and the address of the **node** of a partial **tree** at the right or the left of each node is returned.

16/5/27 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

014786023 **Image available**
WPI Acc No: 2002-606729/200265
XRPX Acc No: N02-480402

Relational **table changing method for partitioned relational database system**, involves storing rows of metadata table, which are associated with contents of partition stored at node, for each partition

Patent Assignee: INT BUSINESS MACHINES CORP (IBM)
Inventor: BITAR R G; HO J C; JANG J; KANE E A; KEESEY J L; REYDA A G;
WILMOT G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6405198	B1	20020611	US 98148460	A	19980904	200265 B

Priority Applications (No Type Date): US 98148460 A 19980904

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6405198	B1		17 G06F-017/30	

Abstract (Basic): US 6405198 B1

NOVELTY - A **relational table** is divided into partitions. Each partition is stored at a **corresponding node** of a partitioned **relational database system**. Rows of metadata **table**, which are associated with the contents of partition stored at the node, are stored for each partition.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) an image processing method;
- (b) an image query processing method;
- (c) a **relational database processing system**;
- (d) a partitioned database system;
- (e) a database processing system;
- (f) a computer software;
- (g) a computer readable code.

USE - For changing **relational table** in partitioned **relational database system** used as information resource for enterprise.

ADVANTAGE - Enables supporting the application of **relational extenders** for complex data types. Allows indexing of image data at the node where an image object is to be stored.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart of **relational data and metadata collocating method**.

pp; 17 DwgNo 5/12

Title Terms: RELATED; TABLE; CHANGE; METHOD; PARTITION; RELATED; DATABASE; SYSTEM; STORAGE; ROW; TABLE; ASSOCIATE; CONTENT; PARTITION; STORAGE; NODE; PARTITION

Derwent Class: T01

International Patent Class (Main): G06F-017/30
File Segment: EPI

16/5/34 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

013479419 **Image available**
WPI Acc No: 2000-651362/200063
XRPX Acc No: N00-483041

Database model conversion procedure involves generating parent and child tables of relational database, corresponding to parent and child groups of network database

Patent Assignee: MITSUBISHI ELECTRIC CORP (MITQ)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000267906	A	20000929	JP 9974744	A	19990319	200063 B

Priority Applications (No Type Date): JP 9974744 A 19990319

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000267906	A	6	G06F-012/00	

Abstract (Basic): JP 2000267906 A

NOVELTY - Parent and child **tables** (1,3) are created in the **relational** database **corresponding** to **parent** and **child** groups in the network database. The order information comprising main and sub-relevant information is added to parent and **child tables**, so as to **correlate** **parent** with **corresponding** **child** groups, during automatic conversion of database.

USE - For automatic conversion of network database model to **relational** database model.

ADVANTAGE - The parent and child records are correlated by main and sub-relevant information, and adding of data is performed by simple method.

DESCRIPTION OF DRAWING(S) - The figure shows the conceptual diagram of **relational** database.

Parent and child tables (1,3)
pp; 6 DwgNo 2/4

Title Terms: DATABASE; MODEL; CONVERT; PROCEDURE; GENERATE; PARENT; CHILD; TABLE; RELATED; DATABASE; CORRESPOND; PARENT; CHILD; GROUP; NETWORK; DATABASE

Derwent Class: T01

International Patent Class (Main): G06F-012/00
File Segment: EPI

16/5/37 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013242611 **Image available**
WPI Acc No: 2000-414493/200036
XRPX Acc No: N00-309710

Method of generating a hierarchical structure including plurality of elements having parent-child relationships by determining a child element of each parent element and information for determining another child element

Patent Assignee: NEC CORP (NIDE)
Inventor: ARAI K

Number of Countries: 027 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1011055	A2	20000621	EP 99124771	A	19991213	200036 B
JP 2000181933	A	20000630	JP 98361607	A	19981218	200037
CA 2292139	A1	20000618	CA 2292139	A	19991215	200044

Priority Applications (No Type Date): JP 98361607 A 19981218

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 1011055 A2 E 14 G06F-017/30

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI

JP 2000181933 A 7 G06F-017/30

CA 2292139 A1 E H04Q-007/34

JP 3277906 B 8 G06F-017/30 Previous Publ. patent JP 2000181933

Abstract (Basic): EP 1011055 A2

NOVELTY - A **hierarchical** structure display table (11) includes at least information for determining whether each element is a parent element, information for determining whether each parent element is a top parent element, information for determining a child element of each parent element and information for determining another child element having the same **hierarchical** level of each child element.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for:

(a) an apparatus for generating a **hierarchical** structure including several elements having parent-child relationship

USE - For generating and displaying the **hierarchical** structure of parent and child stations included in a mobile communication system or the like, by using a **table** for indicating each **parent - child relationship** of the relevant **parent** and **child** stations.

ADVANTAGE - Allows efficiently generating and displaying the whole **hierarchical** structure from the top level in turn.

DESCRIPTION OF DRAWING(S) - The drawing shows a block diagram of a **hierarchical** structure generating apparatus according to the present invention.

pp; 14 DwgNo 1/6

Title Terms: METHOD; GENERATE; **HIERARCHY** ; STRUCTURE; PLURAL; ELEMENT; PARENT; CHILD; RELATED; DETERMINE; CHILD; ELEMENT; PARENT; ELEMENT; INFORMATION; DETERMINE; CHILD; ELEMENT

Derwent Class: T01

International Patent Class (Main): G06F-017/30 ; H04Q-007/34

International Patent Class (Additional): G06F-017/50 ; H04L-012/44

File Segment: EPI

16/5/41 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013033285 **Image available**

WPI Acc No: 2000-205136/200018

XPX Acc No: N00-152685

Hybrid tree array database in computer system, includes user data portions and corresponding tree node data which have index pointer to other user data portion corresponding to parent or children nodes

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: GARGER V I; SHEPHERD A M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6029170	A	20000222	US 97977700	A	19971125	200018 B

Priority Applications (No Type Date): US 97977700 A 19971125

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 6029170 A 17 G06F-017/30

Abstract (Basic): US 6029170 A

NOVELTY - Hybrid **tree** array database stores an array of user data portions searchable by **tree** key search and by sequential **array** search. **Tree node** data **corresponding** to each data portion includes an index pointer to other user data portions that correspond

to parent node or children node of the corresponding node which includes key for **tree** key search.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) method for providing data storage in computer system;
- (b) program for providing data storage

USE - In computer system, for floppy disks, hard drives, CD-ROMs, digital and analog communication links, etc.

ADVANTAGE - Provides the ability to perform fast searching using **tree** database search techniques and the ability to search all the user data fields using array search techniques. Provides both fast key searching and sequential array searching, as typical **tree** database and array database respectively in a single database structure without requiring the user data to be duplicated and stored in two separate databases, thus increasing searching speed and flexibility without the excessive storage requirements and complexity. Allows individual users of the database to search the data using either **tree** or array search technique without requiring any detailed knowledge of the dual nature of the hybrid **tree** array database. Provides the ability of multiple key searches as well as sequential array searches.

DESCRIPTION OF DRAWING(S) - The figure shows hybrid **tree** array database.

pp; 17 DwgNo 2/9

Title Terms: HYBRID; **TREE** ; ARRAY; DATABASE; COMPUTER; SYSTEM; USER; DATA; PORTION; CORRESPOND; **TREE** ; NODE; DATA; INDEX; POINT; USER; DATA; PORTION; CORRESPOND; PARENT; CHILD; NODE

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

16/5/43 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012933137 **Image available**

WPI Acc No: 2000-104984/200009

XPX Acc No: N00-080636

Hierarchical tree generator of computerized document management in office

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: AMANO T; TAKAHASHI H; YAMASHITA A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6003033	A	19991214	US 92843704	A	19920228	200009 B

Priority Applications (No Type Date): US 92843704 A 19920228

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6003033	A	16	G06F-017/30	

Abstract (Basic): US 6003033 A

NOVELTY - A table is created to receive data describing each node of user defined **tree** structure. The data includes user defined attribute data indicating node relationships for each node. Interpreter allocates the attribute data of the nodes in respective memory areas. A pointer data indicating connections of the allocated memory areas is generated according to node relationships indicated in the attribute data.

DETAILED DESCRIPTION - The **table** has set of rows and columns. Each row **corresponds** to a single **node** contained in the user defined **tree** structure. Each column of the **table** **corresponds** to attribute of the **nodes** . User defined attribute data are entered using a text editor. An INDEPENDENT CLAIM is also included for **hierarchical tree** structure generation method.

USE - For computerized document management in office.

ADVANTAGE - An end user can describe a **tree** structure easily,

since usage of special key words is eliminated.

DESCRIPTION OF DRAWING(S) - The figure shows the two tables for describing a layout model of the front page of paper.

pp; 16 DwgNo 12/20

Title Terms: **HIERARCHY ; TREE ;** GENERATOR; DOCUMENT; MANAGEMENT; OFFICE

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

16/5/47 (Item 22 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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012361469 **Image available**

WPI Acc No: 1999-167576/199914

Related WPI Acc No: 1999-189822

XRPX Acc No: N99-122060

Computer-implemented method of generating a three-dimensional representation of hierarchical data structure

Patent Assignee: JHONG E (JHON-I); THEISEN K (THEI-I); ELASTIC TECHNOLOGY INC (ELAS-N)

Inventor: JHONG E; THEISEN K E; THEISEN K

Number of Countries: 082 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9908170	A2	19990218	WO 98US16428	A	19980806	199914 B
AU 9886965	A	19990301	AU 9886965	A	19980806	199928
US 6259458	B1	20010710	US 97907207	A	19970806	200141
			US 99239227	A	19990129	

Priority Applications (No Type Date): US 97907207 A 19970806; US 99239227 A 19990129

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 9908170	A2	E	44	G06F-000/00	
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Designated States (National): AL AM AT AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

AU 9886965	A		G06F-000/00	Based on patent WO 9908170
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US 6259458	B1		G06F-015/00	Div ex application US 97907207
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Div ex patent US 5877775

Abstract (Basic): WO 9908170 A2

NOVELTY - A node representation is displayed at a respective point defined by respective X and Y coordinates as calculated from the intersections between lines of a three-dimensional **grid**. A **connector** representation is also displayed between **parent** and child nodes, to create a three-dimensional representation.

DETAILED DESCRIPTION - A **hierarchical** data structure is generated which is then mapped onto a two-dimensional grid by assigning each node in the **hierarchical** data structure X and Y coordinates. A Z-axis, which may be at an angle of 30 degrees relative to an X-axis, is then defined. Within each level within the data structure, a Z line is defined as being parallel to the Z-axis and as intersecting the level. Thereafter, for each level, each node is mapped from a location on a Y line to a corresponding location on the defined Z line, so that at least the Y coordinate for each node is recalculated. A node representation for each node is then displayed at a first point defined by the respective X coordinate and the recalculated Y coordinate on a display unit. A connector representation is then displayed between each parent and child node of the display unit. An INDEPENDENT CLAIM is included for a computer-readable medium having a stored sequence of instructions for executing a method of the invention, and a computer data signal embodied in a carrier wave and representing a sequence of

instructions which cause the processor to execute predetermined steps.

USE - Representing a **hierarchical** data structure three-dimensionally in graphical user interfaces displayed on e.g. CRT or LCD display.

ADVANTAGE - Represents **hierarchical** data structure in a manner which enhances perception of **tree** structure, and facilitates clear navigation within the data structure. Provides overview of an entire **hierarchy** of file so as to facilitate use orientation within **hierarchical** data structure.

DESCRIPTION OF DRAWING(S) - The drawing illustrates the transformation of two-dimensional representation of a **hierarchical** data structure into a corresponding three-dimensional representation.

Tree levels (12,14,16,18)

Root node (12a)

Child nodes (14a,14b)

Data structure **tree** (20)

Three-axis grids (60,62)

pp; 44 DwgNo 3/17

Title Terms: COMPUTER; IMPLEMENT; METHOD; GENERATE; THREE; DIMENSION;
REPRESENT; **HIERARCHY** ; DATA; STRUCTURE

Derwent Class: T01

International Patent Class (Main): G06F-000/00 ; G06F-015/00

File Segment: EPI

16/5/50 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011935637 **Image available**

WPI Acc No: 1998-352547/199831

XRFX Acc No: N98-275673

Network display method using map expansion or contraction technique - involves dividing general view of map for each node of hierarchy , on one of lowest hierarchies after establishing connection relationship between nodes

Patent Assignee: NIPPON TELEGRAPH & TELEPHONE CORP (NITE)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10134094	A	19980522	JP 96285362	A	19961028	199831 B

Priority Applications (No Type Date): JP 96285362 A 19961028

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10134094	A		10	G06F-017/50	

Abstract (Basic): JP 10134094 A

The method involves indicating facility equivalent to a junction of a network, a relay point or a node on a diagram. The node of the lowest **hierarchy** corresponds to the existing point, and is arranged on a map. The node of all other **hierarchies** is indicated on a table, in parallel to every **hierarchy** , off the display area of the map.

The **connection relationship** between the **nodes** is established by a line, and is indicated on a **table** . The general view of the map is divided for each node of the **hierarchy** , on one of the lowest **hierarchies** .

ADVANTAGE - Improves connection-related identification property. Enables understanding of entire connection relationship reliably.

Dwg.3/17

Title Terms: NETWORK; DISPLAY; METHOD; MAP; EXPAND; CONTRACT; TECHNIQUE;
DIVIDE; GENERAL; VIEW; MAP; NODE; **HIERARCHY** ; ONE; LOW; AFTER; ESTABLISH
; CONNECT; RELATED; NODE

Derwent Class: T01

International Patent Class (Main): G06F-017/50

International Patent Class (Additional): G06T-001/00

File Segment: EPI

16/5/51 (Item 26 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011906002 **Image available**
WPI Acc No: 1998-322912/199828
XRPX Acc No: N98-252454

Encoding method for specific data array - providing data structure lists
and using node list for storing list of nodes, branch list for storing
list of tree branches and set list for storing list of data sets of
data array.

Patent Assignee: TERALOGIC INC (TERA-N)
Inventor: CHUI C K; YI R
Number of Countries: 023 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9824012	A1	19980604	WO 97US20327	A	19971110	199828 B
US 5893100	A	19990406	US 96758589	A	19961127	199921
US 6009434	A	19991228	US 96758589	A	19961127	200007
			US 98183662	A	19981029	

Priority Applications (No Type Date): US 96758589 A 19961127; US 98183662 A
19981029

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9824012	A1	E	43	G05B-023/02	
Designated States (National): CN IL JP KR RU					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
US 6009434	A			G06F-017/30	Cont of application US 96758589 Cont of patent US 5893100
US 5893100	A			G06F-017/30	

Abstract (Basic): WO 9824012 A

The method involves initially storing several node identifiers
(i,j) in a node list (3420), with the identifiers representing a
predefined set of **nodes** in a data **array**, **corresponding** to
coefficients generated by a last iteration of a data decomposition
procedure. Also stored in a branch list (344) are identifiers (i,j,I)
representing **tree** branches corresponding to a predefined subset of
the nodes initially listed in the node list, a set list being also
initialised.

Each such **tree** branch has an associated root node and a branch
depth value, which indicate how many node layers intervene between the
root node and the nodes of the **tree** branch closest to the root node.

For successively smaller values of a positive integer (m), a set
of data encoding steps are repeatedly performed so as to process all
nodes, branches and sets in the lists. Further processing is performed
if a node whose absolute value is equal to or greater than 2^{m-1} is
found.

ADVANTAGE - Efficiently locates data **tree** branches that are
entirely occupied by zero data and encoding them with as few data bits
as possible.

Dwg.1/14

Title Terms: ENCODE; METHOD; SPECIFIC; DATA; ARRAY; DATA; STRUCTURE; LIST;
NODE; LIST; STORAGE; LIST; NODE; BRANCH; LIST; STORAGE; LIST; **TREE** ;
BRANCH; SET; LIST; STORAGE; LIST; DATA; SET; DATA; ARRAY

Derwent Class: P55; P86; S01; S03; T01; W02; W04

International Patent Class (Main): G05B-023/02; **G06F-017/30**

International Patent Class (Additional): B23K-027/00; G01R-023/165;
G01S-009/56; G01V-001/28; **G06F-007/38** ; **G06F-011/08** ; **G06F-011/10** ;
G06F-011/34 ; **G06F-012/06** ; **G06F-015/336** ; G06G-007/00; G06T-001/00;
G10L-007/02; H04B-001/10; H04N-001/41; H04N-001/419; H04N-001/46

File Segment: EPI; EngPI

DIALOG(R)File 350:Derwent WPIX
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011718519 **Image available**
WPI Acc No: 1998-135429/199813
XRPX Acc No: N98-107253

Multistage table processing system using spreadsheet software to form two-dimensional data - has data searching unit that scans tree-type data structure when searching front index from front item, and array-type data structure when searching front index from front item

Patent Assignee: NEC CORP (NIDE)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10011469	A	19980116	JP 96182774	A	19960624	199813 B

Priority Applications (No Type Date): JP 96182774 A 19960624

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 10011469	A	14	G06F-017/30	

Abstract (Basic): JP 10011469 A

The system includes a multi-stage front data unit (111) that maintains the relationship between a multi-stage front item and a front index containing all multi-stage front item data using an **array**-type data structure, while holding a **node** which **relates** to each front item data using a multi-stage **tree**-type data structure.

A data searching unit (110) scans the **tree**-type data structure when searching a front index from the front item, and scans the array-type data structure when searching a front index from the front item.

ADVANTAGE - Ensures high-speed processing when searching multi-stage front item corresponding to front index. Enables searching of front item corresponding to front index directly from array-type data structure. Prevents unnecessary use of memory since multi-stage front item is not registered into memory when searching front item.

Dwg.1/10

Title Terms: MULTISTAGE; TABLE; PROCESS; SYSTEM; SOFTWARE; FORM;
TWO-DIMENSIONAL; DATA; DATA; SEARCH; UNIT; SCAN; **TREE** ; TYPE; DATA;
STRUCTURE; SEARCH; FRONT; INDEX; FRONT; ITEM; ARRAY; TYPE; DATA;
STRUCTURE; SEARCH; FRONT; INDEX; FRONT; ITEM

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

International Patent Class (Additional): **G06F-019/00**

File Segment: EPI

16/5/54 (Item 29 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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010543435 **Image available**
WPI Acc No: 1996-040389/199604
XRPX Acc No: N96-033920

Electronic memory mapping system between computer program text and parse node information - has parse array with sets of begin and end markers corresp. to parse nodes of parse tree ordered in array, markers for any given parent parse node encompass begin and end markers for every child node of given parent node

Patent Assignee: SYNOPSIS INC (SYNO-N)
Inventor: GREGORY B
Number of Countries: 062 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9534038	A1	19951214	WO 95US7147	A	19950602	199604 B
AU 9527672	A	19960104	AU 9527672	A	19950602	199613
US 5870608	A	19990209	US 94253453	A	19940603	199913
			US 95459580	A	19950602	

Priority Applications (No Type Date): US 95459580 A 19950602; US 94253453 A 19940603

Cited Patents: 1.Jnl.Ref; EP 361737; EP 423959

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 9534038	A1	E	35	G06F-017/22	
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Designated States (National): AM AU BB BG BR BY CA CN CZ EE FI GE HU JP KG KP KR KZ LK LR LT LV MD MG MN MX NO NZ PL RO RU SG SI SK TJ TT UA UZ VN

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG

AU 9527672	A			G06F-017/22	Based on patent WO 9534038
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US 5870608	A			G06F-009/455	CIP of application US 94253453
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Abstract (Basic): WO 9534038 A

The electronic memory has an **array** (150). The **array** includes sets of begin and end markers **corresponding** to parse **nodes** (100) of the parse **tree** ordered in the **array**. The markers for any given parent parse node encompass begin and end markers for every child node of the given parent node.

Character markers that correspond to characters of the computer program text are ordered in the array, such that any given character marker in the array is encompassed by every respective set of begin and end markers corresponding to a parse node that covers such a character.

ADVANTAGE - Helps to reduce computation by creating table that is keyed to line number in text file that stores copy of stack created by traversing parse **tree** to point in text file corresponding to end of particular line. Stack only needs to be saved every several text lines.

Dwg.1, 3/7

Title Terms: ELECTRONIC; MEMORY; MAP; SYSTEM; COMPUTER; PROGRAM; TEXT; PARSE; NODE; INFORMATION; PARSE; ARRAY; SET; BEGIN; END; MARK; CORRESPOND ; PARSE; NODE; PARSE; **TREE** ; ORDER; ARRAY; MARK; PARENT; PARSE; NODE; ENCOMPASSING; BEGIN; END; MARK; CHILD; NODE; PARENT; NODE

Derwent Class: T01

International Patent Class (Main): G06F-009/455 ; G06F-017/22

File Segment: EPI

16/5/57 (Item 32 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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009811978 **Image available**

WPI Acc No: 1994-091833/199411

XRPX Acc No: N94-071889

C ++ object class hierarchy conversion to relational database schema - using structured query language to permit persistent storage of object instances as records in relational database

Patent Assignee: RACAL DATACOM INC (RACA)

Inventor: BAPAT S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5295256	A	19940315	US 90628258	A	19901214	199411 B

Priority Applications (No Type Date): US 90628258 A 19901214

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 5295256	A		65	G06F-007/20	
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Abstract (Basic): US 5295256 A

The method involves providing in the computer memory a computer program having at least one class **hierarchy** organization of object-oriented information and being in source code form, the class **hierarchy** organization comprising at least one parent class of objects having a first attribute and one derived class including at least one of the objects of the parent class, the derived class having a second

attribute, the derived class inheriting the first attribute from the parent class. The computer program is analysed with a second computer program to locate automatically the class **hierarchy** organization. The second computer program is used to create automatically from the located class **hierarchy** organization a source code routine in the computer memory for defining a **table** structure, **corresponding** to the **parent** class.

ADVANTAGE - Enables object oriented programmers to utilise **relational** database technology for persistent storage.

Dwg.1/34

Title Terms: OBJECT; CLASS; **HIERARCHY** ; CONVERT; RELATED; DATABASE; STRUCTURE; QUERY; LANGUAGE; PERMIT; PERSISTENT; STORAGE; OBJECT; INSTANCE ; RECORD; RELATED; DATABASE

Index Terms/Additional Words: SQL

Derwent Class: T01

International Patent Class (Main): **G06F-007/20**

International Patent Class (Additional): **G06F-015/40 ; G06F-015/419**

File Segment: EPI

16/5/61 (Item 36 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009205982 **Image available**

WPI Acc No: 1992-333403/199241

XRPX Acc No: N92-254495

Network management system and relational database - uses novel non-standard reference key along with primary and foreign keys to research, address, retrieve and manipulate records

Patent Assignee: CHRYSLER CORP (CHRY)

Inventor: BAKER J D; CANNON M J; DEMSKI K; KENT N F; MYERS D H; DEMSKI K E; DEMSKI K L

Number of Countries: 007 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 507110	A2	19921007	EP 92103957	A	19920306	199241 B
AU 9211224	A	19920910	AU 9211224	A	19920226	199243
CA 2061915	A	19920907	CA 2061915	A	19920226	199248
US 5307484	A	19940426	US 91665105	A	19910306	199416
EP 507110	A3	19931208	EP 92103957	A	19920306	199514
AU 657299	B	19950309	AU 9211224	A	19920226	199520
EP 507110	B1	19990901	EP 92103957	A	19920306	199940
DE 69229888	E	19991007	DE 629888	A	19920306	199947
			EP 92103957	A	19920306	

Priority Applications (No Type Date): US 91665105 A 19910306

Cited Patents: -SR.Pub; 2.Jnl.Ref; JP01023632; AUS 4825206

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 507110 A2 E 25 G06F-015/40

Designated States (Regional): DE FR GB NL

US 5307484 A 23 G06F-013/00

AU 657299 B G06F-015/40 Previous Publ. patent AU 9211224

EP 507110 B1 E G06F-017/30

Designated States (Regional): DE FR GB NL

DE 69229888 E G06F-017/30 Based on patent EP 507110

AU 9211224 A H04L-012/26

CA 2061915 A G06F-015/409

EP 507110 A3 G06F-015/40

Abstract (Basic): EP 507110 A

The system comprises a device for arranging names of functional entities along with the functional attributes of the entities in a set of **relational** database (RTB) tables. A device arranges names of physical entities along with the physical attributes of the physical entities in a second set of RDB tables. A device then forms a physical implementation RDB table which relates the first set of RDB tables to

the second set of RDB tables.

A storage device contains the functional, physical and physical implementation RDB tables in a manner forming a tabular repository of named entities and attributes of the network. Finally a computer is programmed to permit using the functional, physical and physical implementation tables to determine structure and integrity of the network.

ADVANTAGE - Permits arbitrary association of network functional and physical entities without disruptions to searching, addressing, retrieval and manipulating capabilities of management system.

Dwg.1/14

Title Terms: NETWORK; MANAGEMENT; SYSTEM; RELATED; DATABASE; NOVEL; NON; STANDARD; REFERENCE; KEY; PRIMARY; FOREIGN; KEY; RESEARCH; ADDRESS; RETRIEVAL; MANIPULATE; RECORD
Derwent Class: T01; W01
International Patent Class (Main): G06F-013/00 ; G06F-015/40 ; G06F-015/409 ; G06F-017/30 ; H04L-012/26
International Patent Class (Additional): G06F-015/413 ; G06F-015/419 ; H04L-012/24
File Segment: EPI

16/5/62 (Item 37 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009166746 **Image available**

WPI Acc No: 1992-294180/199236

XRPX Acc No: N92-225369

Data structure generation method for tree structures - providing data structure corresponding to tree or set of trees generated by entering attributes into table in memory

Patent Assignee: INT BUSINESS MACHINES CORP (IBM)

Inventor: AMANO T; TAKAHASHI H

Number of Countries: 003 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 501753	A2	19920902	EP 92301578	A	19920225	199236 B
EP 501753	A3	19931201	EP 92301578	A	19920225	199513

Priority Applications (No Type Date): JP 9155543 A 19910228

Cited Patents: No-SR.Pub; 3.Jnl.Ref; JP 62054328

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 501753	A2	E	27	G06F-015/419	
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Designated States (Regional): DE FR GB

EP 501753	A3			G06F-015/419	
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Abstract (Basic): EP 501753 A

A data structure is generated corresponding to a **tree** or set of **trees** in a memory of a computer system. Attributes corresponding to nodes of a **tree** or set of **trees** are entered into one or more columns of a table. The system interprets the table, allocates a memory area to each of the nodes, sets data on the attributes given to the node, and generates pointer data indicating the connections between the memory areas. The heirarchy of the nodes and the sequence of nodes linked immediately below the same node are determined on the basis of the sequence of rows **corresponding** to the **nodes** and levels assigned to the nodes in the **table**.

USE/ADVANTAGE - In electronic filing; extracts parts of document and offers flexibility.

Dwg.3/20

Title Terms: DATA; STRUCTURE; GENERATE; METHOD; **TREE** ; STRUCTURE; DATA; STRUCTURE; CORRESPOND; **TREE** ; SET; **TREE** ; GENERATE; ENTER; ATTRIBUTE; TABLE; MEMORY

Derwent Class: T01

International Patent Class (Main): G06F-015/419

File Segment: EPI

16/5/66 (Item 41 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008469365 **Image available**
WPI Acc No: 1990-356365/199048
XRPX Acc No: N90-272182

Relational database referential integrity maintenance method -
identifying related data tables affected by new referential constraint
and verifying validity of constraint only on identified tables

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)
Inventor: HORN G R; MALKEMUS T R
Number of Countries: 008 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 399744	A	19901128	EP 90305456	A	19900521	199048 B
AU 9055065	A	19901129				199104
CN 1047744	A	19901212				199136
US 5226158	A	19930706	US 89356141	A	19890524	199328
EP 399744	A3	19921119	EP 90305456	A	19900521	199342
KR 9402344	B1	19940323	KR 907256	A	19900521	199601
EP 399744	B1	19970326	EP 90305456	A	19900521	199717
DE 69030282	E	19970430	DE 630282	A	19900521	199723
			EP 90305456	A	19900521	
SG 41966	A1	19970815	SG 952313	A	19900521	199739

Priority Applications (No Type Date): US 89356141 A 19890524

Cited Patents: NoSR.Pub; 2.Jnl.Ref

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 399744	A		B		
Designated States (Regional): DE FR GB					
US 5226158	A		6 B		
EP 399744	B1 E		20 B		
Designated States (Regional): DE FR GB					
DE 69030282	E		B		Based on patent EP 399744
AU 9055065	A		B		
CN 1047744	A		B		
EP 399744	A3		B		
KR 9402344	B1		B		
SG 41966	A1		B		

Abstract (Basic): EP 399744 A

The maintenance method identifies which of a number of related data tables will be affected by the existence of the new referential constraint and verifies the validity of the new referential constraint only upon identified related data tables. A model of a selected portion of the relational database is created, this model including the selected data table, all data tables dependent from the selected data table.

USE - Electronic data processing system. (19pp Dwg.No.1/7

Title Terms: RELATED; DATABASE; INTEGRITY; MAINTAIN; METHOD; IDENTIFY;
RELATED; DATA; TABLE; AFFECT; NEW; CONSTRAIN; VERIFICATION; VALID;
CONSTRAIN; IDENTIFY; TABLE

Derwent Class: T01

International Patent Class (Main): G06F-015/40 ; G06F-017/30

File Segment: EPI

16/5/67 (Item 42 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008205950 **Image available**
WPI Acc No: 1990-092951/199013

Computer-implemented relational data-base management system - has

**relationship descriptors describing data of referential constraints
between tables and forming separate objects in data-base system**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: CRUS R A; DOCKTER M J; ENGLES R W; HADERLE D J

Number of Countries: 007 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 360387	A	19900328	EP 89307079	A	19890712	199013 B
AU 8939536	A	19900329				199030
BR 8904808	A	19900501				199033
US 5133068	A	19920721	US 88249049	A	19880923	199232
			US 91754227	A	19910828	
EP 360387	A3	19921014	EP 89307079	A	19890712	199340
CA 1325681	C	19931228	CA 607387	A	19890802	199406
EP 360387	B1	19960508	EP 89307079	A	19890712	199623
DE 68926422	E	19960613	DE 626422	A	19890712	199629
			EP 89307079	A	19890712	

Priority Applications (No Type Date): US 88249049 A 19880923; US 91754227 A 19910828

Cited Patents: No-SR.Pub; 3.Jnl.Ref

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 360387	A	E	24		
Designated States (Regional): DE FR GB					
US 5133068	A		18	G06F-007/00	Cont of application US 88249049
EP 360387	B1	E	24	G06F-017/30	
Designated States (Regional): DE FR GB					
DE 68926422	E			G06F-017/30	Based on patent EP 360387
CA 1325681	C			G06F-015/40	

Abstract (Basic): EP 360387 A

A departmental record descriptor (32) has two pointers (46,48) pointing, respectively, to the first relationship descriptor (R1) in which the departmental **table** is the **parent table** and to the first **relationship** descriptor (R4) in which the departmental **table** is the dependent **table**. 4 Each relationship descriptor has a full description of a referential constraint either directly or by use of pointers to other objects such as record and index descriptors which include information comprises in the specification of the constraint.

ADVANTAGE - The number of data accesses is reduced and non-programmers are enabled to understand constraints more easily.
(24pp Dwg.No.6/6

Title Terms: COMPUTER; IMPLEMENT; RELATED; DATA; BASE; MANAGEMENT; SYSTEM;
RELATED; DESCRIBE; DESCRIBE; DATA; CONSTRAIN; TABLE; FORMING; SEPARATE;
OBJECT; DATA; BASE; SYSTEM

Derwent Class: T01

International Patent Class (Main): G06F-007/00 ; G06F-015/40 ;
G06F-017/30

File Segment: EPI

18/5/9 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO
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05728369 **Image available**
MULTISTAGE TABLE PROCESSING SYSTEM

PUB. NO.: 10-011469 [JP 10011469 A]
PUBLISHED: January 16, 1998 (19980116)
INVENTOR(s): SHIINA SHIGERU
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 08-182774 [JP 96182774]
FILED: June 24, 1996 (19960624)
INTL CLASS: [6] G06F-017/30 ; G06F-019/00
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications

ABSTRACT

PROBLEM TO BE SOLVED: To make retrieval processing for a multistage table efficient and to evade a waste of a memory (including the simplification of memory processing) by enabling retrieval in array type data structure while making it possible to perform retrieval in **tree** type data structure.

SOLUTION: A multistage table data part 111 while holding nodes regarding respective **table** items in multistage **tree** type **data** structure holds the **relation** between the multistage **table** items having data of all **table** items of the stages and table indexes in array type data structure. A data retrieval part 110 retrieves data in the **tree** type data structure at the multistage table data part 111 when retrieving a table item from the table indexes and retrieves data in the array type data structure at the multistage table data part 111 when retrieving a table item from the table indexes.

18/5/15 (Item 15 from file: 347)
DIALOG(R)File 347:JAPIO
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04752022 **Image available**
TABLE CALCULATING DEVICE

PUB. NO.: 07-044622 [JP 7044622 A]
PUBLISHED: February 14, 1995 (19950214)
INVENTOR(s): AIDA MITSUHIRO
APPLICANT(s): SHARP CORP [000504] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 05-158668 [JP 93158668]
FILED: June 29, 1993 (19930629)
INTL CLASS: [6] G06F-019/00
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications);
29.4 (PRECISION INSTRUMENTS -- Business Machines); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers &
Microprocessors); R139 (INFORMATION PROCESSING -- Word
Processors

ABSTRACT

PURPOSE: To provide a table calculating device which displays a calculation result by a table form on a prescribed display part and performs the multipurpose utilization of data without damaging the simplicity of a table data processing.

CONSTITUTION: This device is provided with a basic/table file storing source data by a matrix table form (F005) where item name A(X), B, C,... is imparted every column so that data may be freely written and read and an application/ table file which is capable of storing the data of the table form so that it may be freely written and read. The device is provided with a relation control file storing the **information** relating the data

included in the table (F005) every item name based on the item name imparted to the table. By a control part, the source data stored in the basic/table file is called on the application/table file by the table form, and the **relational** table data processing between the data to which one item name is imparted and the data to which other item name is imparted is performed based on the **information** stored in the **relation** control file in a state that the **table** form is maintained.

18/5/16 (Item 16 from file: 347)
DIALOG(R) File 347:JAPIO
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04551073 **Image available**
COMMUNICATION NETWORK CONSTITUTION MANAGING DATA BASE SYSTEM

PUB. NO.: 06-222973 [JP 6222973 A]
PUBLISHED: August 12, 1994 (19940812)
INVENTOR(s): ISOBE SEIJI
YAMAKI TOSHIBUMI
YAMANAKA YASUSHI
APPLICANT(s): NIPPON TELEGR & TELEPH CORP <NTT> [000422] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-011194 [JP 9311194]
FILED: January 26, 1993 (19930126)
INTL CLASS: [5] **G06F-012/00** ; H04L-012/24; H04L-012/26; H04M-003/00
JAPIO CLASS: 45.2 (**INFORMATION** PROCESSING -- Memory Units); 44.3 (COMMUNICATION -- Telegraphy); 44.4 (COMMUNICATION -- Telephone
JOURNAL: Section: P, Section No. 1826, Vol. 18, No. 600, Pg. 166, November 15, 1994 (19941115)

ABSTRACT

PURPOSE: To facilitate retrieval processing program preparation and to make processing common and moduled by effectively utilizing a communication network constitution managing data base using an integrated **information** model, for which **relation** among an ER drawing, attribute item definition and data base **table** is regular, for a basic **information** model.

CONSTITUTION: A basic **information** model 111 is defined by a **hierarchical** integrated **information** model 112, the ER drawing, attribute item definition and data base table are made to correspond to each other, a **relational** base number between the managing substance instances of communication network constitution is normalized 122 into N:1, and attribute items are classified. On the other hand, an **information** retrieval object 104 is defined by using attribute item name application and respective rules 103, concerning the **information** retrieval processing of a work processing program to use a communication network constitution managing data base system 100, the **information** retrieval of the entire integrated **information** model 112 can be simplified and can be easily made common as well only by providing a retrieval pattern corresponding to the basic **information** model 112.

18/5/17 (Item 17 from file: 347)
DIALOG(R) File 347:JAPIO
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04505898 **Image available**
DOCUMENT PROCESSOR

PUB. NO.: 06-149798 [JP 6149798 A]
PUBLISHED: May 31, 1994 (19940531)
INVENTOR(s): SUGAWARA KUMI
HARUKI KAZUHIITO
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-302218 [JP 92302218]

FILED: November 12, 1992 (19921112)
INTL CLASS: [5] G06F-015/20
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications
JAPIO KEYWORD: R139 (INFORMATION PROCESSING -- Word Processors
JOURNAL: Section: P, Section No. 1793, Vol. 18, No. 460, Pg. 153,
August 26, 1994 (19940826)

ABSTRACT

PURPOSE: To enable a user to easily and simply prepare a document without moving between a part being generated and a desired part to be referred to many times.

CONSTITUTION: A work station which has a keyboard, a mouse, and a CRT and is equipped with a window system enables the creation and editing of the document in a window by structure units such as chapters, paragraphs, and phrases of the document that the user prepares by a document preparation part 4 for the preparation and editing of the document and a document structure extraction part 6 for extracting a tile in the document; and those units of the documents are **hierarchically** controlled by the document control part 7 by paragraphs in chapters and phrases in paragraphs by using a document structure **table** and a **document** structure **connection** part 12 puts **documents** into one document. Further, a document structure retrieval part 9, a document display control part 11, and an index display control part 10 divides one document into structure units such as chapters, paragraphs, and phrases and documents are created and edited, at every unit.

18/5/18 (Item 18 from file: 347)
DIALOG(R) File 347:JAPIO
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04360373 **Image available**
DATA PROCESSOR

PUB. NO.: 06-004273 [JP 6004273 A]
PUBLISHED: January 14, 1994 (19940114)
INVENTOR(s): HORI MIYUKI
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 04-166184 [JP 92166184]
FILED: June 24, 1992 (19920624)
INTL CLASS: [5] G06F-009/06
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units
JOURNAL: Section: P, Section No. 1724, Vol. 18, No. 200, Pg. 14, April
07, 1994 (19940407)

ABSTRACT

PURPOSE: To provide the data processor which is easy for a user to use and is friendly to the user by recognizing **hierarchical** relations of modules having **hierarchical** relations to perform various processings and managing the **hierarchical** modules.

CONSTITUTION: A library file 21 holding plural modules, a module **information table** 19 holding **information** of reference **relations** or the like of each module, a module **hierarchical relation table** 17 holding inter-module **hierarchical relation information**, a **hierarchical relation information** generating means 13 which generates the module **hierarchical relation information table** 17 based on information in the module **information table** 19, and a command processing means 2 which collectively processes modules from master modules which are not referred to by any other modules to terminal modules, which do not refer to any other modules, in accordance with designation of the processing based on module **hierarchical relation information** are provided to constitute the data processor.

18/5/19 (Item 19 from file: 347)
DIALOG(R) File 347:JAPIO

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04182143 **Image available**

HIERARCHICAL STRUCTURE CHECK SYSTEM

PUB. NO.: 05-173843 [JP 5173843 A]
PUBLISHED: July 13, 1993 (19930713)
INVENTOR(s): TOMOTA MIEKO
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 03-215703 [JP 91215703]
FILED: August 28, 1991 (19910828)
INTL CLASS: [5] **G06F-011/32 ; G06F-009/06**
JAPIO CLASS: 45.1 (**INFORMATION** PROCESSING -- Arithmetic Sequence Units
JOURNAL: Section: P, Section No. 1634, Vol. 17, No. 588, Pg. 165,
October 27, 1993 (19931027)

ABSTRACT

PURPOSE: To reduce data quantity to be held and to speed-up **hierarchical** structure checking processing by providing a step to take out only block name data connected upward and downward without holding the connection **information** of a block.

CONSTITUTION: In the step (1), the data of circuit name **information** is generated for a circuit formed by using **hierarchy**. In this step, only a circuit name connected upward and downward is extracted, and is stored in an **array**. (The **connection information** is not held as the data). Next, in the step (2), every circuit name data connected upward and downward is sorted by a circuit name. The result of this sorting is preserved. Further, in the step (5), neighboring circuit names are compared with each other for the result of the step (2). At that time, if the same circuit name appears in the neighboring names, it is decided that the same circuit name appears in the up-and-down connection of one circuit, and since it is not correct in a viewpoint of circuit configuration, an error message is outputted in the step (7).

18/5/20 (Item 20 from file: 347)

DIALOG(R) File 347:JAPIO

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04014682 **Image available**

DATA MANAGING DEVICE

PUB. NO.: 05-006382 [JP 5006382 A]
PUBLISHED: January 14, 1993 (19930114)
INVENTOR(s): MIWA YASUO
SHIMODA HIROSHI
APPLICANT(s): SHIMADZU CORP [000199] (A Japanese Company or Corporation),
JP (Japan)
APPL. NO.: 03-183599 [JP 91183599]
FILED: June 27, 1991 (19910627)
INTL CLASS: [5] **G06F-015/22**
JAPIO CLASS: 45.4 (**INFORMATION** PROCESSING -- Computer Applications
JOURNAL: Section: P, Section No. 1543, Vol. 17, No. 267, Pg. 119, May
25, 1993 (19930525)

ABSTRACT

PURPOSE: To support user's data I/O work by **hierarchically** managing data at the time of storing the data by a table format.

CONSTITUTION: This data managing device is provided with a memory 3 for storing a data definition sentence defining an item name in each data table, a management part 2 for constructing item names as a list by analyzing the data definition sentence in each data table, making a **hierarchical** list of respective list structures and forming data tables corresponding to respective list structures, a CRT display 6 for displaying the data **tables**, and so on. **Data tables** with **hierarchical relation** are judged by tracing the list structure of item names and outputted and

displayed to/on the display 6.

18/5/21 (Item 21 from file: 347)

DIALOG(R)File 347:JAPIO

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03973726 **Image available**

CONSTRUCTION SYSTEM FOR DATA BASE OF DIAGNOSTIC KNOWLEDGE

PUB. NO.: 04-338826 [JP 4338826 A]

PUBLISHED: November 26, 1992 (19921126)

INVENTOR(s): YAMAHIRA TAKUYA

APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)

APPL. NO.: 03-141009 [JP 91141009]

FILED: May 15, 1991 (19910515)

INTL CLASS: [5] G06F-009/44 ; G06F-015/42

JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);
28.2 (SANITATION -- Medical); 45.4 (INFORMATION PROCESSING
-- Computer Applications

JOURNAL: Section: P, Section No. 1520, Vol. 17, No. 187, Pg. 84, April
12, 1993 (19930412)

ABSTRACT

PURPOSE: To effectively construct a knowledge data base which is used for automatic diagnoses of the causes of faults of various devices and the human bodies.

CONSTITUTION: A cause/symptom relation data base 1 shows a two-dimensional table where the causes and the symptoms of faults are defined as the axes. The weight showing the relational strength between the causes and the symptoms is added to the table. A cause/symptom assembly extracting part 2 extracts a set of causes and symptoms where all causes and symptoms are partly related with each other in regard of the relation between the causes and symptoms of the base 1. A diagnostic knowledge describing part 3 receives the set of causes and symptoms extracted by the part 2 and stores the set in a diagnostic knowledge base 4.

18/5/24 (Item 24 from file: 347)

DIALOG(R)File 347:JAPIO

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03888157 **Image available**

CONNECTION INFORMATION TABLE . PREPARING METHOD FOR INTEGRATED SYSTEM
OF PLURAL MULTI- HIERARCHY CONTROLLERS

PUB. NO.: 04-253257 [JP 4253257 A]

PUBLISHED: September 09, 1992 (19920909)

INVENTOR(s): YOSHIKURA FUYUHIKO
UNO TEIJI

APPLICANT(s): TOYOTA MOTOR CORP [000320] (A Japanese Company or
Corporation), JP (Japan)

APPL. NO.: 03-009241 [JP 919241]

FILED: January 29, 1991 (19910129)

INTL CLASS: [5] G06F-015/16 ; G05B-019/05; H04L-012/28; H04L-012/44

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications);
22.3 (MACHINERY -- Control & Regulation); 44.3 (COMMUNICATION
-- Telegraphy

JOURNAL: Section: P, Section No. 1473, Vol. 17, No. 33, Pg. 136,
January 21, 1993 (19930121)

ABSTRACT

PURPOSE: To enable direct access to a controller (PC) belonging to another link in another hierarchy link.

CONSTITUTION: A connection information table is prepared by

integrating link management **tables** prepared at the respective PC. The **connection information table** is kept at all the PC or the PC at the high-order **hierarchy**. In the case of retrieval or the like, each PC refers to the **connection information table** kept at the own station, generates a read request to the table of the other PC when no retrieval destination PC exists on this table, and the PC receiving the request executes the retrieval and returns the result. Thus, in a certain PC, **information** can be fetched from the PC belonging to the other link.

18/5/25 (Item 25 from file: 347)
DIALOG(R)File 347:JAPIO
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03883540 **Image available**
DISTRIBUTED PROCESSING DEVICE FOR DOCUMENT LOGICAL STRUCTURE

PUB. NO.: 04-248640 [JP 4248640 A]
PUBLISHED: September 04, 1992 (19920904)
INVENTOR(s): YASUDA HIDETO
KASHIWAGI MASAYUKI
KATO AKIRA
KUDOU SHIGETOSHI
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 03-014057 [JP 9114057]
FILED: February 05, 1991 (19910205)
INTL CLASS: [5] G06F-012/00 ; G06F-013/00 ; G06F-015/16 ; G06F-015/20
JAPIO CLASS: 45.2 (**INFORMATION** PROCESSING -- Memory Units); 45.4 (**INFORMATION** PROCESSING -- Computer Applications)
JAPIO KEYWORD: R131 (**INFORMATION** PROCESSING -- Microcomputers & Microprocessors)
JOURNAL: Section: P, Section No. 1471, Vol. 17, No. 24, Pg. 36,
January 18, 1993 (19930118)

ABSTRACT

PURPOSE: To enable users to write and generate documents in partnership with each document as a unit by updating, referring to, adding, and deleting substances of logical structures and attribute **information** of documents based on a structure medium independent of a specific machine type.

CONSTITUTION: A server 2 is provided with a node **information table** where structure mediums consisting of structure **information** of positional **relations** of **tree** structures of documents and attribute **information** of titles or the like is stored, and the structure medium reported from a client is expanded in the node **information table** and is generated; and when generation of a substance is instructed the structure medium of the whole of the document is displayed to select a pertinent node and an exclusive flag is turned on if being turned off, and the substance is generated in this state and is stored in accordance with the storage pointer of the node **information table**, and the exclusive flag is turned off.

18/5/27 (Item 27 from file: 347)
DIALOG(R)File 347:JAPIO
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03658068
CONTROL SYSTEM FOR **HIERARCHICAL** REFERENCE TABLE

PUB. NO.: 04-023168 [JP 4023168 A]
PUBLISHED: January 27, 1992 (19920127)
INVENTOR(s): KITAMURA YOSHIKI
APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 02-128886 [JP 90128886]

FILED: May 18, 1990 (19900518)
INTL CLASS: [5] G06F-015/40 ; G06F-015/62
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications
JOURNAL: Section: P, Section No. 1347, Vol. 16, No. 186, Pg. 105, May
07, 1992 (19920507)

ABSTRACT

PURPOSE: To control a file without limiting an OS by providing a table where all detailed entries of a **hierarchical** reference table are arranged and retrieving the provided table based on the designated entry **information** for registration of the reference table.

CONSTITUTION: The detailed entries forming a **hierarchical** reference table are turned into a list (**table**) regardless of each **hierarchy** , etc. At the same time, the **information** showing the **hierarchical relation** is given to each detailed entry and the **table** is successively retrieved for registration and retrieval of the **hierarchical** reference table. In other words, the **hierarchical** reference table can be controlled by a file (including a table). Thus the file can be controlled without limiting an OS and at the same time the number of control subject files can be decreased in a system. As a result, the details can be registered and retrieved in the least file operating frequency and in the shortest time.

18/5/29 (Item 29 from file: 347)

DIALOG(R)File 347:JAPIO

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03575635 **Image available**

TABLE AND DATA RELATION MANAGEMENT SYSTEM FOR RELATIONAL DATA BASE MANAGEMENT SYSTEM

PUB. NO.: 03-238535 [JP 3238535 A]
PUBLISHED: October 24, 1991 (19911024)
INVENTOR(s): IKEDA JUNKO
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 02-035371 [JP 9035371]
FILED: February 15, 1990 (19900215)
INTL CLASS: [5] G06F-012/00
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units
JOURNAL: Section: P, Section No. 1301, Vol. 16, No. 24, Pg. 103,
January 21, 1992 (19920121)

ABSTRACT

PURPOSE: To additionally define relations to another table later with respect to a newly defined table by managing relations between tables and those between data of tables, which are defined by a **relational** data base management system with independent files.

CONSTITUTION: A table relation management part and a part relation management part 7 consist of a **table** relation management file 6 and a **data relation** management file 8 respectively, and they are housed in a virtual storage access management file (VSAS file) together. Items of relation number, master table sequential number, slave table sequential number, and file name are defined in the table relation management file 6, and the items of relation number, master relative number, and slave relative number are defined in the **data relation** management file 8. Thus, the relations to another **table** are additionally defined later with respect to a newly defined table.

18/5/35 (Item 35 from file: 347)

DIALOG(R)File 347:JAPIO

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03284378 **Image available**

RELATIONAL DATA BASE INQUIRING SYSTEM

PUB. NO.: 02-259878 [JP 2259878 A]
PUBLISHED: October 22, 1990 (19901022)
INVENTOR(s): TANIO MITSUHIRO
APPLICANT(s): KANSAI NIPPON DENKI SOFTWARE KK [490843] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-080518 [JP 8980518]
FILED: March 30, 1989 (19890330)
INTL CLASS: [5] G06F-015/40
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessors
JOURNAL: Section: P, Section No. 1152, Vol. 15, No. 16, Pg. 75, January 14, 1991 (19910114)

ABSTRACT

PURPOSE: To inquire name data and detailed data to the arbitrary **table** of a **relation data** base (RDB) with a personal computer as a terminal equipment by obtaining the arbitrary table definition **information** of the RDB of a host device in the terminal equipment.

CONSTITUTION: In an RDB (**relational data** base) retrieval processing part 4, a table definition **information** retrieval part 5 is provided to retrieve the table definition **information** of a table, which is designated from a terminal equipment 2, out of the table definition **information** of the RDB defined in the host device and a name data extraction part 6 is provided to extract the name data of an item in the table, which is designated based on the table definition **information**, from the RDB. Then, a detailed data extraction part 7 is provided to extract the detailed data of the table, for which the item of the table designated from the above-mentioned terminal equipment is coincident with a designated item value, and a detailed data sort part 8 is provided to sort the extracted detailed data with the designated item as a key so as to be matched with the designation order of the item. Thus, the data can be inquired to the arbitrary table of the RDB with the personal computer as the terminal equipment.

18/5/37 (Item 37 from file: 347)
DIALOG(R) File 347:JAPIO
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03125234 **Image available**
DISPLAY METHOD FOR **HIERARCHIC** TABLE

PUB. NO.: 02-100734 [JP 2100734 A]
PUBLISHED: April 12, 1990 (19900412)
INVENTOR(s): TSURUOKA KUNITOSHI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-253987 [JP 88253987]
FILED: October 07, 1988 (19881007)
INTL CLASS: [5] G06F-012/00 ; G06F-015/40 ; G09F-009/40; G09G-003/00
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units); 44.9 (COMMUNICATION -- Other); 45.4 (INFORMATION PROCESSING -- Computer Applications
JOURNAL: Section: P, Section No. 1072, Vol. 14, No. 313, Pg. 67, July 05, 1990 (19900705)

ABSTRACT

PURPOSE: To easily display the **hierarchic table** by constituting the **hierarchic table** by assembling cells according to **information** wherein reference **relation** among the coordinates of the cells is described when the **hierarchic** table is assembled and displayed by using a master table and a slave table.

CONSTITUTION: Lines of the master table and relative lines of the slave table are read in and cells whose current coordinates are already determined are searched for according to the reference relation among the

coordinates of the cells; and the contents of the cells and a frame are displayed, the current coordinates of the cells are updated. The operation is repeated, and consequently the **hierarchic** table where the contents of the master table and slave table are combined is assembled and displayed on a screen. Thus, a rectangle corresponding to one data in the table is regarded as a cell and a cell to be displayed and its coordinates are determined according to the reference relation among the coordinates of the respective cells and the current coordinates of the cell being displayed, so even when there is a cell which is variable in display position and the number of times of repetition, the **hierarchic** table is easily assembled and displayed.

18/5/40 (Item 40 from file: 347)
DIALOG(R)File 347:JAPIO
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02951246 **Image available**
NETWORK CONSTRUCTION CONTROL DEVICE

PUB. NO.: 01-248846 [JP 1248846 A]
PUBLISHED: October 04, 1989 (19891004)
INVENTOR(s): TORII SATOSHI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-077555 [JP 8877555]
FILED: March 30, 1988 (19880330)
INTL CLASS: [4] H04L-011/00; **G06F-013/00**
JAPIO CLASS: 44.3 (COMMUNICATION -- Telegraphy); 45.2 (**INFORMATION**
PROCESSING -- Memory Units
JOURNAL: Section: E, Section No. 867, Vol. 13, No. 594, Pg. 136,
December 27, 1989 (19891227)

ABSTRACT

PURPOSE: To suppress the preparation of connection **information** having the possibility to constitute a loop by accumulating the **connection information** in a link **table** only when the attached **hierarchy** designated for two elements instructed connection is acquired from an element table and a deciding means decides that the direction of the connection satisfies a prescribed linear sequence relation.

CONSTITUTION: When a pair 22 of two element names to show a connection relation from software 20 is given and sent to an element **table** 11 as control **information** by a **connection information** registering means 16 in a network construction control device 10, the attached **hierarchy** concerning element names (a) and (b) stored already is read from the element table 11 and sent as an attached **hierarchy** M of the concerning source element and an attached **hierarchy** N of the connecting destination element to a comparator 13 of a connection **information** registering means 16. A switch 14, when a control signal from the comparator 13 instructs $M < N$, registers the pair 22 of the element name into a link table 12 and oppositely at the time of $M \geq N$, suppresses the registration to a link table 12. At this result, the loop construction is not included in the network construction controlled by the network construction control device 10.

18/5/43 (Item 43 from file: 347)
DIALOG(R)File 347:JAPIO
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02687420 **Image available**
DISPLAY DEVICE FOR DATA DEPENDENCE RELATION OF KNOWLEDGE BASE SYSTEM

PUB. NO.: 63-304320 [JP 63304320 A]
PUBLISHED: December 12, 1988 (19881212)
INVENTOR(s): MORIMOTO MIE
WADA YUTAKA
FUKUZAKI KOJI

APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 62-139772 [JP 87139772]
FILED: June 05, 1987 (19870605)
INTL CLASS: [4] G06F-007/28 ; G06F-003/02
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);
45.2 (INFORMATION PROCESSING -- Memory Units); 45.3 (INFORMATION PROCESSING -- Input Output Units
JOURNAL: Section: P, Section No. 852, Vol. 13, No. 138, Pg. 36, April
06, 1989 (19890406)

ABSTRACT

PURPOSE: To improve the data retrieving efficiency by displaying the dependence **relations** of **data** on a screen divided into a **grids** after arranging them for each **hierarchy** level.

CONSTITUTION: An arithmetic part 5a of an arithmetic processor 5 calls successively the processing procedures out of a processing procedure memory part 5b and carries out the processes based on these procedures. A picture data memory part 3 stores the subject data retrieving result outputted from the processor 5 as well as the coordinate data on a display area. A picture display controller 2 reads the contents of the part 3 and displays the characters and pictures on a display device 1. At the same time, the data name to be retrieved is designated via an input device 4, then the rule name and the data name dependent on said data name are retrieved out of a **hierarchy** data memory 6. This retrieving result is sent to the part 3 via a picture data output part 5f and displayed on the device 1 via the controller 2. Thus the dependence relations of data can be arranged for each **hierarchy** level and displayed on a screen divided into grids. As a result, the data retrieving efficiency is improved.

18/5/45 (Item 45 from file: 347)
DIALOG(R)File 347:JAPIO
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02449763 **Image available**
CONTROL SYSTEM FOR DOCUMENT STRUCTURE

PUB. NO.: 63-066663 [JP 63066663 A]
PUBLISHED: March 25, 1988 (19880325)
INVENTOR(s): IWAI ISAMU
DOI MIWAKO
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 61-210566 [JP 86210566]
FILED: September 09, 1986 (19860909)
INTL CLASS: [4] G06F-015/20
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications
JAPIO KEYWORD: R139 (INFORMATION PROCESSING -- Word Processors
JOURNAL: Section: P, Section No. 742, Vol. 12, No. 290, Pg. 106,
August 09, 1988 (19880809)

ABSTRACT

PURPOSE: To facilitate easy compiling of the logical structure of a document by storing this structure in an internal memory of a computer.
CONSTITUTION: The document data supplied via an input part 2 are stored in an original data memory part 9 under the control of a document control part 1. The document structure of said input data is decided with reference to keyword dictionary 14, a key rule dictionary 15, a document structure rule dictionary 16, etc. Then a cell structure containing various **information** connected by pointers is applied in order to secure a **hierarchical** link on a computer memory among the physical relationship between sentences, the logical relationship between sentences, the reference relationship among reference diagrams, **table** numbers, etc., in sentences, the corresponding **relation** to the original **data**, etc.

18/5/46 (Item 46 from file: 347)
DIALOG(R)File 347:JAPIO
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02398472 **Image available**
OBJECT STRUCTURE DESCRIBING DEVICE

PUB. NO.: 63-015372 [JP 63015372 A]
PUBLISHED: January 22, 1988 (19880122)
INVENTOR(s): TOMONO MASAHIRO
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 61-158233 [JP 86158233]
FILED: July 04, 1986 (19860704)
INTL CLASS: [4] G06F-015/62
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications
JOURNAL: Section: P, Section No. 720, Vol. 12, No. 220, Pg. 84, June
23, 1988 (19880623)

ABSTRACT

PURPOSE: To attain structure description at high efficiency by providing a connector containing **information** of connection between partial objects and built-in mechanism for coordinate transformation and connecting between partial objects by the connector.

CONSTITUTION: The structure of an object to be described is described by a basic object as the smallest unit constituting the object and connectors that connects basic objects. The content of the basic object is stored in a basic body describing section and the content of the connector is stored in a connector describing section 2. A composite object can be described by connecting basic objects **hierarchically** by connectors, and the content of the composite object is stored in a composite object describing section 3. The composite object and basic objects constituting it and connectors are formed in a composite object generating section 4. **Information** of **connection** and coordinate transformation **matrix** are incorporated in generated basic objects and connectors, and the position and attitude **information** of each partial object can be found based on them.

18/5/47 (Item 47 from file: 347)
DIALOG(R)File 347:JAPIO
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02137428 **Image available**
FORMING AND EDITING DEVICE FOR **TREE** STRUCTURE

PUB. NO.: 62-054328 [JP 62054328 A]
PUBLISHED: March 10, 1987 (19870310)
INVENTOR(s): ISHII SHINICHIRO
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 60-194332 [JP 85194332]
FILED: September 02, 1985 (19850902)
INTL CLASS: [4] G06F-007/22 ; G06F-015/20
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);
45.2 (INFORMATION PROCESSING -- Memory Units); 45.4 (INFORMATION PROCESSING -- Computer Applications
JOURNAL: Section: P, Section No. 604, Vol. 11, No. 248, Pg. 45, August
13, 1987 (19870813)

ABSTRACT

PURPOSE: To omit the preceding understand of relevant **information** by storing relevant **information** indicating the parents, brothers and children of a **tree** structure and adding or deleting meaning **information** consisting of the stored **information** and nodes to form and edit the **tree** structure.

CONSTITUTION: Respective data in the **tree** structure and relevant **information** corresponding to the parents, brothers and children among the

data is stored in a meaning **information** storing device 1, the **information** is processed by an **information** processor 2 and converted into graphic **information** and the graphic **information** is displayed on a display device 3. The device 1 assigns identification labels ID to respective **data** and stores the **relation** among **data** by a **table** format and the device 2 recognizes the data obtained from the device 1 as a processed node ID or a master node ID by a node ID recognizing means 4, converts the recognized ID into graphic **information**, executes prescribed processing by a node forming means 5, a node deleting means 6, and an arc editing means 7 in accordance with an inputted command, displays the processed result on the device 3, and stores the data in the device 1.

18/5/49 (Item 49 from file: 347)
DIALOG(R) File 347:JAPIO
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01981340 **Image available**
RELATIONAL DATA BASE SYSTEM

PUB. NO.: 61-195440 [JP 61195440 A]
PUBLISHED: August 29, 1986 (19860829)
INVENTOR(s): UEDA KENICHI
SUGANO ATSUSHI
HONDA KUNIO
YAMAGUCHI MASAHIRO
OKAMURA YOSHIKI
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company
or Corporation), JP (Japan)
APPL. NO.: 60-036907 [JP 8536907]
FILED: February 26, 1985 (19850226)
INTL CLASS: [4] G06F-012/00
JAPIO CLASS: 45.2 (**INFORMATION** PROCESSING -- Memory Units
JOURNAL: Section: P, Section No. 538, Vol. 11, No. 22, Pg. 109,
January 21, 1987 (19870121)

ABSTRACT

PURPOSE: To allow update **information** of a primary **relational** table and to reflect a virtual **relational** table by setting a reconstruction indication flag regarding the primary **relational** table on the virtual **relational** table which is prepared through a VIEW function and also by updating through its flag when its virtual **relational** table is referred.

CONSTITUTION: Primary **relational** table name 2 and VIEW **relational** table name 4 are provided with a **relational** data base in addition to **relational** table name 1 and **relational** data 3 and when the **relational** table name 1 is prepared by the VIEW function, the table 2 is prepared as a base of **relational** table. When an updated **relational** table is being prepared through the VIEW function on the basis of the **relational** table 1, a table 4 is arranged. And when the primary **relational** table comprising a prototype of the **relational** table name 1 is updated and has a **relation** with VIEW definition **information**, the reconstruction flag of **table** 2 will be ON and in the case of reference processing of its **relational** table name 1, if its flag is ON, such a **relational** table is prepared again newly so that its reference can be processed.

18/5/51 (Item 51 from file: 347)
DIALOG(R) File 347:JAPIO
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01052872 **Image available**
THESAURUS CONSTITUTING SYSTEM

PUB. NO.: 57-203172 [JP 57203172 A]
PUBLISHED: December 13, 1982 (19821213)
INVENTOR(s): SUGIYAMA KENJI
UCHIDA YUJI

APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 56-087696 [JP 8187696]
FILED: June 08, 1981 (19810608)
INTL CLASS: [3] **G06F-015/40**
JAPIO CLASS: 45.4 (**INFORMATION** PROCESSING -- Computer Applications
JOURNAL: Section: P, Section No. 181, Vol. 07, No. 57, Pg. 32, March
09, 1983 (19830309)

ABSTRACT

PURPOSE: To define, change, and refer to various relations defined in the thesaurus with a standardized operation, by providing a **matrix** part and a dictionary part and indicating mutual **relations** of retrieval item **information** of the dictionary part by **relational information** of the **matrix** part.

CONSTITUTION: A **matrix** part 2 where **information** of **relations** between retrieval items of each line and column are stored at intersections between respective lines and columns to which retrieval item names are assigned and a dictionary part 1 where line and column **information** of the matrix part 2 for respective retrieval item names are stored are provided, and mutual relations of retrieval item **information** of the dictionary part 1 are indicated by **relational information** of the matrix part 2. Consequently, it is possible that various relations defined in the thesaurus are changed or referred with a standardized operation, and specially, relations to other item names used in the thesaurus are erased simultaneously by erasing only one retrieval item.

18/5/57 (Item 5 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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013465361 **Image available**
WPI Acc No: 2000-637304/200061
XRPX Acc No: N00-472602

Keyword search supporting method for data items in structured database, involves providing index associating keywords of selected data items with location identifier based on which data is retrieved

Patent Assignee: PARTNET INC (PART-N)
Inventor: BOWEN S J; BROWN D R
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 6094649 A 20000725 US 97995700 A 19971222 200061 B

Priority Applications (No Type Date): US 97995700 A 19971222
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 6094649 A 15 G06F-017/30

Abstract (Basic): US 6094649 A

NOVELTY - Document with textual representation of selected data item is created outside the database. Index associating keywords in textual representation of data items with location identifier are created. The structured database stores data item organized as **records** in **relation** to data dictionary. **Records** and **tables** are indexed only when they are identical by a supplemental data dictionary.

DETAILED DESCRIPTION - The data item having relative location identified in structured database is selected. INDEPENDENT CLAIMS are also included for the following:

(a) computer storage medium storing the program for keyword searching;

(b) computer system

USE - Used searching data items in structured database such as **relational** database. Also retrieving data from textual documents such as web pages.

ADVANTAGE - The indexed keywords used in the method are

comprehensive and accurate because they are generated directly from more or all of the data values. It also bridges a gap between loosely structured textual keyword search **information** technologies and highly structured query language search database technologies. The method uses a single search technique to locate and retrieve desired **information** from different types of **information** sources. It allows user to retrieve **relational** data without knowing details of the databases internal organization.

DESCRIPTION OF DRAWING(S) - The figure shows flow chart of the keyword searches supporting method.

pp; 15 DwgNo 3/4

Title Terms: KEYWORD; SEARCH; SUPPORT; METHOD; DATA; ITEM; STRUCTURE;
DATABASE; INDEX; ASSOCIATE; KEYWORD; SELECT; DATA; ITEM; LOCATE; IDENTIFY
; BASED; DATA; RETRIEVAL
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

18/5/59 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013090003 **Image available**

WPI Acc No: 2000-261875/200023

XRPX Acc No: N00-195373

Relational database linking method for database management system, involves generating specification data showing component of relational database based on DB tables and correlation of items of different tables

Patent Assignee: OKI ELECTRIC IND CO LTD (OKID)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000066934	A	20000303	JP 98231696	A	1998081	200023 B

Priority Applications (No Type Date): JP 98231696 A 19980818

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000066934	A		8 G06F-012/00	

Abstract (Basic): JP 2000066934 A

NOVELTY - The DB table is produced based on input DB table **information** data and **relational information** data to built-up the **relational** database. The items of different DB tables are correlated. The specification data showing component of **relational** database is generated based on DB **tables** and **correlation** result. The description **data** by SQL language is generated based on **table information** data. DETAILED DESCRIPTION - The relevant **information data** indicates **relationship** between items of **table** and data of item name. INDEPENDENT CLAIMS are also included for the following: **relational** database building apparatus; recording medium for storing **relational** database building software

USE - For building **relational** database in database management system.

ADVANTAGE - Avoids inconsistency between database and specifications. Simplifies database management by building **relational** database easily. DESCRIPTION OF DRAWING(S) - The figure shows the block diagram showing **relational** database building process.

Dwg.1/6

Title Terms: RELATED; DATABASE; LINK; METHOD; DATABASE; MANAGEMENT; SYSTEM;
GENERATE; SPECIFICATION; DATA; COMPONENT; RELATED; DATABASE; BASED;
DECIBEL; TABLE; CORRELATE; ITEM; TABLE

Derwent Class: T01

International Patent Class (Main): **G06F-012/00**

International Patent Class (Additional): **G06F-017/30**

File Segment: EPI

18/5/60 (Item 8 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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013039335 **Image available**
WPI Acc No: 2000-211188/200019
XRPX Acc No: N00-157985

**Design information analysis apparatus for object oriented program,
rearranges class included in correspondence table, based on hierarchical
structure of class and method in table**

Patent Assignee: FUJITSU LTD (FUJIT)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11338700	A	19991210	JP 98145223	A	19980527	200019 B
JP 3323130	B2	20020909	JP 98145223	A	19980527	200264

Priority Applications (No Type Date): JP 98145223 A 19980527

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 11338700	A	13	G06F-009/44	
JP 3323130	B2	14	G06F-009/44	Previous Publ. patent JP 11338700

Abstract (Basic): JP 11338700 A

NOVELTY - A correspondence table showing the combination of class and method extracted from design **information** , is generated. Corresponding symbols are set up, if the preset method is defined in the preset class or if the method is inherited from super class in the preset class. The class is rearranged based on **hierarchical** structure and displayed. DETAILED DESCRIPTION - An extraction unit (11) extracts the class and the method from input design **information** . A **correspondence table** generator (12) generates the correspondence **table** , corresponding to a particular cell. The class of a correspondence table is rearranged by class rearrangement unit based on **hierarchical** structure. An INDEPENDENT CLAIM is also included for the program for design **information** analysis.

USE - For analyzing design **information** of the program described using object oriented language.

ADVANTAGE - When designing or producing the program, the search process of the required method is performed quickly. When a preset method is changed, the influenced class is indicated simply.

DESCRIPTION OF DRAWING(S) - The figure shows the theoretical diagram of the design **information** analysis apparatus. (11) Extraction unit; (12) Correspondence table generator.

Dwg.1/20

Title Terms: DESIGN; **INFORMATION** ; ANALYSE; APPARATUS; OBJECT; ORIENT;
PROGRAM; REARRANGE; CLASS; CORRESPOND; TABLE; BASED; **HIERARCHY** ;
STRUCTURE; CLASS; METHOD; TABLE

Derwent Class: T01

International Patent Class (Main): G06F-009/44

International Patent Class (Additional): G06F-009/06

File Segment: EPI

18/5/66 (Item 14 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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011267379 **Image available**
WPI Acc No: 1997-245282/199722
XRPX Acc No: N97-202279

**Information system data storage process - storing objects ,
characteristics, relationships and links in six memory areas corresp.
to tables in relational database**

Patent Assignee: GENESYS SOFTWARE ENTWICKLUNGS & PRODN GM (GENE-N);
BRUECKNER A (BRUE-I)

Inventor: BRUECKNER A; BRUECKNER A

Number of Countries: 075 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9715015	A2	19970424	WO 96DE1719	A	19960912	199722 B
AU 9710919	A	19970507	AU 9710919	A	19960912	199735
WO 9715015	A3	19970515	WO 96DE1719	A	19960912	199737
EP 855062	A2	19980729	EP 96941572	A	19960912	199834
			WO 96DE1719	A	19960912	
DE 19538240	A1	19980806	DE 1038240	A	19951013	199837
US 6208992	B1	20010327	WO 96DE1719	A	19960912	200119
			US 9851394	A	19980410	
EP 855062	B1	20010627	EP 96941572	A	19960912	200137
			WO 96DE1719	A	19960912	
DE 59607181	G	20010802	DE 507181	A	19960912	200145
			EP 96941572	A	19960912	
			WO 96DE1719	A	19960912	

Priority Applications (No Type Date): DE 1038240 A 19951013

Cited Patents: 2.Jnl.Ref; WO 8903567; WO 9505630; No-SR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9715015	A2	G	52	G06F-017/30	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN					
Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
AU 9710919	A			G06F-017/30	Based on patent WO 9715015
WO 9715015	A3			G06F-017/30	
EP 855062	A2	G		G06F-017/30	Based on patent WO 9715015
Designated States (Regional): AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT SE SI					
DE 19538240	A1			G06F-017/30	
US 6208992	B1			G06F-017/30	Based on patent WO 9715015
EP 855062	B1	G		G06F-017/30	Based on patent WO 9715015
Designated States (Regional): AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT SE SI					
DE 59607181	G			G06F-017/30	Based on patent EP 855062 Based on patent WO 9715015

Abstract (Basic): WO 9715015 A

The **information** system runs a program enabling access to a database. The data structure of the data in the database is constructed by storing objects representing images of real or abstract objects in a first memory area, storing object relationships in a second area, storing characteristics describing objects and relationships in third and fourth areas, storing links between objects and characteristics in a fifth area and storing links between relationships and characteristics in a sixth area.

The six memory areas are physically or logically separate. Each can represent a table in a **relational** database.

ADVANTAGE - Enables retrospective expansion of **information** system or database.

Dwg.10/11

Title Terms: **INFORMATION** ; SYSTEM; DATA; STORAGE; PROCESS; STORAGE; OBJECT ; CHARACTERISTIC; RELATED; LINK; SIX; MEMORY; AREA; CORRESPOND; TABLE; RELATED; DATABASE

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

18/5/68 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010800371 **Image available**

WPI Acc No: 1996-297324/199630

XRPX Acc No: N96-250191

**Installation ledger database for information management system - forms
unique table by abstracting standard table and key by using one-to-one
correspondence correction**

Patent Assignee: MITSUBISHI ELECTRIC CORP (MITQ)

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 8129558	A	19960521	JP 94268931	A	19941101	199630 B
JP 3140922	B2	20010305	JP 94268931	A	19941101	200115

Priority Applications (No Type Date): JP 94268931 A 19941101

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8129558	A		12	G06F-017/30	
JP 3140922	B2		12	G06F-017/30	Previous Publ. patent JP 8129558

Abstract (Basic): JP 8129558 A

The ledger database consists of a **hierarchial** database (601) which registers a database name. A **hierarchial** installation (602) stores the installation name corresponding to connected database name. A standard table consists installation **information** which is able to be uniquely identified using the key item. An unique table is formed by abstracting the standard **table** and key item using a one to one **correspondence relationship**. The administration **information** is shared among various installation.

ADVANTAGE - Permits periodical management. Simplifies input and edit operations.

Dwg.6/16

Title Terms: INSTALLATION; LEDGER; DATABASE; **INFORMATION** ; MANAGEMENT; SYSTEM; FORM; UNIQUE; TABLE; ABSTRACT; STANDARD; TABLE; KEY; ONE; ONE; CORRESPOND; CORRECT

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

International Patent Class (Additional): **G06F-017/50**

File Segment: EPI

Set	Items	Description
S1	50814	TREE OR TREES OR HIERARCH? OR RELATIONAL? ? OR RDBMS OR (D-IRECTORY OR FILE) (?)STRUCTURE? ?
S2	550078	TABLE? ? OR ARRAY? ? OR GRID? ? OR MATRIX?? OR MATRICE? ?
S3	1047344	OBJECT? ? OR DATA OR INFORMATION?? OR CONTENT OR DOCUMENT? ? OR RECORD? ?
S4	184487	PARENT? ? OR DIRECT??(3N)REPORT??? OR LEADER? ? OR CHILD? ? OR LEAF? ? OR LEAVES OR NODE? ?
S5	52264	S3(3N)(RELATIONSHIP? ? OR RELATION? ? OR ASSOCIATION? ? OR AFFILIATION? ? OR CONNECTION? ? OR INTERRELATION? ? OR CORRELATION? ? OR CORRESPONDENCE? ?)
S6	521170	S3(3N)(ANOTHER OR OTHER OR SECOND??? OR 2ND OR NEXT OR ADDITIONAL OR DIFFERENT OR SEPARATE OR FOLLOWING OR BETWEEN OR HIGHER OR ABOVE OR LOWER OR BELOW OR UNDER)
S7	52327	S6(3N)(RELATE? ? OR RELATING OR ASSOCIAT? OR AFFILIAT? OR -CONNECT? OR ALLIE? ? OR INTERRELAT? OR PARTNER? OR CORRELAT? -OR JOIN?? OR CORRESPOND?)
S8	36125	S4(5N)(RELATIONSHIP? ? OR RELAT???? OR ASSOCIAT? OR AFFILIAT? OR CONNECT? OR ALLIE? ? OR INTERRELAT? OR PARTNER? OR CORRELAT? OR JOIN?? OR CORRESPOND?)
S9	222955	S3(5N)(ID OR IDENTIFIE? ? OR IDENTIFICATION OR NUMBER? ? OR NUMER? OR CODE OR CODES OR CODING OR NAME OR NAMES OR DESIGNATOR? OR DESIGNATION OR TAG? ? OR ADDRESS?? OR POINTER? ?)
S10	4113	S2(10N)S5
S11	361	S1(S)S10 AND IC=G06F
S12	63	S11/TI,AB,CM
S13	2980	S2(10N)S7
S14	138	S1(S)S13 AND IC=G06F
S15	125	S14 NOT S12
S16	8	S15/TI,AB,CM
S17	2515	S2(10N)S8
S18	225	S1(S)S17 AND IC=G06F
S19	45	S18/TI,AB,CM
S20	40	S19 NOT (S12 OR S16)

12/5,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00966669

Database query system and method

Datenbanksuchsystem und -verfahren

Système et méthode d'interrogation de bases de données

PATENT ASSIGNEE:

INTERNATIONAL BUSINESS MACHINES CORPORATION, (200123), , Armonk, NY
10504, (US), (Applicant designated States: all)

INVENTOR:

Carey, Michael J., 1473 Almaden Valley Drive, San Jose, California 95120,
(US)

Kiernan, Gerald G., 1074 Wallace Drive, San Jose, California 95120, (US)

LEGAL REPRESENTATIVE:

Davies, Simon Robert (75452), IBM, United Kingdom Limited, Intellectual
Property Law, Hursley Park, Winchester, Hampshire SO21 2JN, (GB)

PATENT (CC, No, Kind, Date): EP 877328 A2 981111 (Basic)

EP 877328 A3 000119

APPLICATION (CC, No, Date): EP 98303616 980508;

PRIORITY (CC, No, Date): US 853294 970509; US 853976 970509

DESIGNATED STATES: DE; FR; GB

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT EP 877328 A2

An object language application (e.g., c++, JAVA, etc.,) is enabled to issue a query over a view and to receive back, as query results, handles to application type objects which can be further manipulated by the application. A view is defined herein as a collection of a view type, and a view type is defined as a class or type. In a preferred embodiment, a tool is used by a programmer writing an application to create object language class definitions that are based upon the view type of the view referenced by the query. Upon receipt of the query referencing a view type, a query engine generates a query plan that builds mock (i.e., proxy) application type objects in memory based upon the view types. The application objects have a form that is consistent with the class definition for a type of object returned as a result. The application can run methods on the application type objects or point to other application type objects from the handles, to the application objects, that are returned to the application; and these manipulations will be understood by the query engine. In a preferred embodiment, query rewrite optimizations are applied to the queries over views requiring object building in order to optimize the evaluation of the query and the building of view objects as query results. For example, when a query over a view is analyzed and it is determined that the query is not requesting a handle, and is not referencing a method, but only asks for values, no objects are built. Also, if a query traverses a reference type attribute, but the query can be transformed into a join or outer join operation between **relational tables**, then no **object** building is required. In these above described situations, the rewritten query can be pushed down to the database management system of the data source for resolution. If the query does request a handle or references a method, then some object building is required. However, query rewrite techniques can still be applied so that parts of the query are pushed down to the DBMS to minimize the number of objects that are built.

ABSTRACT WORD COUNT: 360

NOTE:

Figure number on first page: 9B

LEGAL STATUS (Type, Pub Date, Kind, Text):

Examination: 000830 A2 Date of request for examination: 20000704

Search Report: 20000119 A3 Separate publication of the search report

Application: 981111 A2 Published application (Alwith Search Report
;A2without Search Report)

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9846	1410
SPEC A	(English)	9846	17780
Total word count - document A			19190
Total word count - document B			0
Total word count - documents A + B			19190

...ABSTRACT are built. Also, if a query traverses a reference type attribute, but the query can be transformed into a join or outer join operation between **relational tables**, then no **object** building is required. In these above described situations, the rewritten query can be pushed down to the database management system of the data source for...

...CLAIMS the object building procedure call; and

- b) If V is a view type and the jth element in the FROM clause of M is a **relational table**, the **object** building procedure call used to create V has as its jth element a row type that is passed as argument to the call, wherein the...

12/5,K/5 (Item 5 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00926831

METHOD OF TRANSFERRING DATA BETWEEN RELATIONAL DATABASE TABLES
PROCEDE DE TRANSFERT DE DONNEES ENTRE TABLES DE BASES DE DONNEES
RELATIONNELLES

PATENT ASSIGNEE:

Wall Data Incorporated, (2149680), 11332 N.E. 122nd Way, Kirkland,
 Washington 98034-6931, (US), (Applicant designated States: all)

INVENTOR:

KAWAI, Kenji, 7309 - 21st N.E., Seattle, WA 98115, (US)

PATENT (CC, No, Kind, Date):

WO 9803926 980129

APPLICATION (CC, No, Date): WO 97934177 970716; WO 97US12396 970716

PRIORITY (CC, No, Date): US 685237 960723

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU;
 MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: G06F-017/30

CITED PATENTS (WO A): XP 2044945 0

CITED REFERENCES (WO A):

I.B.M. CORPORATION: "Method for Import With Replace That Eliminates
 Filling the Log File" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 31, no.
 11, April 1989, NEW YORK, US, pages 447-448, XP002044945;

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 20000419 A1 International application. (Art. 158(1))

Application: 980527 A1 International application (Art. 158(1))

Withdrawal: 20000419 A1 Date application deemed withdrawn: 19990224

Appl Changed: 20000419 A1 International application not entering
 European phase

LANGUAGE (Publication,Procedural,Application): English; English; English

METHOD OF TRANSFERRING DATA BETWEEN RELATIONAL DATABASE TABLES

12/5,K/6 (Item 6 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00908997

Method and system for information retrieval

Verfahren und System zur Informationswiederauffindung

Procede et systeme pour le recouvrement d'informations

PATENT ASSIGNEE:

NIPPON TELEGRAPH AND TELEPHONE CORPORATION, (686333), 19-2,
 Nishi-Shinjuku 3-chome, Shinjuku-ku, Tokyo 160, (JP), (applicant
 designated states: DE;GB)

INVENTOR:

Machihara, Hiroki, 1-33-1-508, Tomioka-higashi, Kanazawa-ku,
Yokohama-shi, Kanagawa-ken, (JP)

Okada, Eiji, 1-8-17, Sawano, Akashi-shi, Hyougo-ken, (JP)

Suzuki, Gengo, 9-2-7-102, Sugita, Isogo-ku, Yokohama-shi, Kanagawa-ken,
(JP)

Kanou, Naoya, 7-1-101, Gurinhaitsu, Yokosuka-shi, Kanagawa-ken, (JP)

LEGAL REPRESENTATIVE:

Dealtry, Brian (42911), Eric Potter Clarkson, Park View House, 58 The
Ropewalk, Nottingham NG1 5DD, (GB)

PATENT (CC, No, Kind, Date): EP 829811 A1 980318 (Basic)

APPLICATION (CC, No, Date): EP 97307015 970910;

PRIORITY (CC, No, Date): JP 96240857 960911

DESIGNATED STATES: DE; GB

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT EP 829811 A1

The method and system for retrieving information allow the user to retrieve desired information from database systems by simply specifying retrieval content and retrieval conditions using languages familiar to the user, without having to know the names for the relevant database systems or their structures or without having to interact with the platform of the meta-information, i.e., information concerning the use of database systems and accessing method. The present method allows retrieval of information from different database systems connected to a communication network, by using reference information stored beforehand to access different database systems; consulting the reference information to determine database systems which contains data to satisfy the information retrieval request by converting requested items to equivalent related words that the system can recognize. The storage locations of the data and instructions on how to acquire the **data** are determined using **relational** items to link various **tables** so that an information retrieval statement can be prepared by the system program on user's behalf. The databases are searched according to the acquiring method and the information retrieval content described in the system prepared statement, and the retrieved information is presented for viewing in a format that is used by the information searcher.

ABSTRACT WORD COUNT: 202

LEGAL STATUS (Type, Pub Date, Kind, Text):

Examination: 011004 A1 Date of dispatch of the first examination
report: 20010816

Application: 980318 A1 Published application (A1with Search Report
;A2without Search Report)

Examination: 980819 A1 Date of filing of request for examination:
980619

Change: 981202 A1 Designated Contracting States (change)

LANGUAGE (Publication,Procedural,Application): English; English; English

...ABSTRACT converting requested items to equivalent related words that the system can recognize. The storage locations of the data and instructions on how to acquire the **data** are determined using **relational** items to link various **tables** so that an information retrieval statement can be prepared by the system program on user's behalf. The databases are searched according to the acquiring...

12/5,K/7 (Item 7 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00856370

INFORMATION SYSTEM AND PROCESS FOR STORING DATA THEREIN

INFORMATIONSSYSTEM UND VERFAHREN ZUR SPEICHERUNG VON DATEN IN EINEM
INFORMATIONSSYSTEM

SYSTEME D'INFORMATIONS ET PROCEDE DE MEMORISATION DE DONNEES DANS UN
SYSTEME D'INFORMATIONS

PATENT ASSIGNEE:

Bruckner, Annette, (2320590), Schulstrasse 5, 85229 Markt Indersdorf,
(DE), (Proprietor designated states: all)

INVENTOR:

Bruckner, Annette, Schulstrasse 5, 85229 Markt Indersdorf, (DE)

LEGAL REPRESENTATIVE:

Betten & Resch (101031), Postfach 10 02 51, 80076 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 855062 A2 980729 (Basic)

EP 855062 B1 010627

WO 9715015 970424

APPLICATION (CC, No, Date): EP 96941572 960912; WO 96DE1719 960912

PRIORITY (CC, No, Date): DE 19538240 951013

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU;

MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; SI

INTERNATIONAL PATENT CLASS: G06F-017/30

CITED PATENTS (EP B): WO 89/03567 A; WO 95/05630 A

CITED REFERENCES (EP B):

IBM TECHNICAL DISCLOSURE BULLETIN, Bd. 29, Nr. 12, Mai 1987, NEW YORK,
US, Seiten 5434-5435, XP000039638 ANONYMOUS: "Data Base for Program
Design"

THE FIFTH GENERATION CHALLENGE, ACM '84 ANNUAL CONFERENCE, 8. -

14.Oktobre 1984, SAN FRANCISCO, CA, USA, Seiten 102-108, XP002027727 R.

P. BRAZILE: "A General Purpose Data Base Design";

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Grant: 010627 B1 Granted patent

Application: 970813 A1 International application (Art. 158(1))

Lapse: 020619 B1 Date of lapse of European Patent in a
contracting state (Country, date): FI
20010627, FR 20011221, PT 20010927, SE
20010927,

Oppn None: 020619 B1 No opposition filed: 20020328

Lapse: 020410 B1 Date of lapse of European Patent in a
contracting state (Country, date): FI
20010627, SE 20010927,

Lapse: 020130 B1 Date of lapse of European Patent in a
contracting state (Country, date): SE
20010927,

Lapse: 020502 B1 Date of lapse of European Patent in a
contracting state (Country, date): FI
20010627, FR 20011221, SE 20010927,

Application: 980729 A2 Published application (Alwith Search Report
;A2without Search Report)

Examination: 980729 A2 Date of filing of request for examination:
980512

Examination: 990804 A2 Date of despatch of first examination report:
990616

LANGUAGE (Publication,Procedural,Application): German; German; German

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200126	1060
CLAIMS B	(German)	200126	956
CLAIMS B	(French)	200126	1098
SPEC B	(German)	200126	7199

Total word count - document A 0

Total word count - document B 10313

Total word count - documents A + B 10313

...CLAIMS is a physically or logically separated area of a storage.

9. A process according to any of Claims1 to 7, wherein said storage areas
include **tables** of a **relational** database.

10. A **data** structure of a database stored on a storage which is
accessed via a program running on an EDP system, wherein said data
structure of said...

00828484

COMPUTER SYSTEM FOR CREATING SEMANTIC OBJECT MODELS FROM EXISTING
RELATIONAL DATABASE SCHEMAS
RECHNERSYSTEM UM SEMANTISCHE OBJEKTMODELLE VON EXISTIERENDEN RELATIONELLEN
DATENBANKSYSTEMEN HERZUSTELLEN
SYSTEME INFORMATIQUE DE CREATION DE MODELES D'OBJETS SEMANTIQUES A PARTIR
DE SCHEMAS DE BASES DE DONNEES RELATIONNELLES EXISTANTES

PATENT ASSIGNEE:

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AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE)

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PATENT (CC, No, Kind, Date): EP 834141 A1 980408 (Basic)

EP 834141 B1 990506

WO 9641282 961219

APPLICATION (CC, No, Date): EP 96917975 960603; WO 96US8563 960603

PRIORITY (CC, No, Date): US 478377 950607

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU;
MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: G06F-017/30;

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Lapse: 000607 B1 Date of lapse of European Patent in a
contracting state (Country, date): BE
19990506, FI 19990807,

Oppn None: 20000426 B1 No opposition filed: 20000208

Lapse: 020605 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19990506, BE 19990506, CH 19990506, LI
19990506, FI 19990506, GR 19990506, MC
19991231, PT 19990806, SE 19990506,

Lapse: 010606 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19990506, BE 19990506, CH 19990506, LI
19990506, FI 19990807, GR 19990506, MC
19991231, PT 19990806,

Lapse: 001213 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19990506, BE 19990506, CH 19990811, LI
19990811, FI 19990807, MC 19991231, PT
19990806,

Lapse: 000614 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19990506, BE 19990506, FI 19990807,

Lapse: 000621 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19990506, BE 19990506, FI 19990807, MC
19991231, PT 19990806,

Lapse: 001227 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19990506, BE 19990506, CH 19990506, LI
19990506, FI 19990807, MC 19991231, PT
19990806,

Lapse: 010718 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19990506, BE 19990506, CH 19990506, LI
19990506, FI 19990506, GR 19990506, MC
19991231, PT 19990806,

Application: 970416 A1 International application (Art. 158(1))

Application: 980408 A1 Published application (A1with Search Report
;A2without Search Report)

Examination: 980408 A1 Date of filing of request for examination:
971230
Examination: 980923 A1 Date of despatch of first examination report:
980807

Grant: 990506 B1 Granted patent

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9918	1848
CLAIMS B	(German)	9918	1800
CLAIMS B	(French)	9918	2247
SPEC B	(English)	9918	9748

Total word count - document A 0

Total word count - document B 15643

Total word count - documents A + B 15643

...CLAIMS column defined for the relational database table to which the semantic object corresponds.

2. The computer system of Claim 1, wherein the database catalog includes **relationship information** that defines whether a column included in a **table** is a foreign key to a column included in another **relational** database table in the **relational** database schema, wherein the computer program further causes the central processing unit to :

- a) analyze each column included within each relational database table to determine...

...or fewer columns.

5. The computer system of Claim 1, wherein the computer program further causes the central processing unit to :

- a) create a semantic **object** for each **relational** database **table** defined in the existing **relational** database schema.

6. The computer system of Claim 5, wherein the database catalog includes **relationship information** that defines whether a column included in a **table** is a foreign key to another **relational** database table in the **relational** database schema, the computer program further causing the central processing unit to:

- a) analyze each table defined in the relational database schema to determine if...

...the database catalog to determine each relational database table defined in the existing relational database schema;

allocating space in the memory to create a semantic **object** for each **relational** database **table** defined in the existing **relational** database schema;

analyzing the database catalog to determine each column included within each table in the existing relational database schema;

allocating space in the memory...

...value attribute for each column included within each relational database table;

linking each simple value attribute created for the columns included in a relational database **table** with the semantic **object** created for the **relational** database **table** ; and

displaying a visual representation of at least some of the semantic objects and simple value attributes created on the display screen.

8. The method of Claim 7, wherein the database catalog includes **relationship information** that defines whether a column in a **table** is a foreign key to another table in the existing **relational** database schema and primary key information that defines which columns included in a **relational** table are defined as a primary key of the **relational** table, the method further comprising the steps of:

analyzing the catalog to determine whether a column included in a table is both a foreign key...

...both a foreign key and a primary key and includes more than one non-foreign key column; and

linking the multivalued group to the semantic **object** created for the

relational database table referenced by the foreign key.

9. The method of Claim 8, further comprising the steps of:
 allocating space in the memory to create a multivalued...
 ...key and a primary key wherein the table has only one non-foreign key
 column; and
 linking the multivalued, simple value attribute to the semantic **object**
 created for the **relational database table** referenced by the
 foreign key.

10. The method of Claim 9, further comprising the steps of:
 analyzing the database catalog to determine if a table...
 ...foreign keys of the table.

11. The method of Claim 10, further comprising the step of:
 deleting from memory the space allocated for each semantic **object**
 created for a **relational database table** having only columns
 defined as foreign keys.

12. The method of Claim 8, further comprising the step of:
 deleting from memory the space allocated for each semantic **object**
 created for a **relational database table** having a column that is
 defined as a foreign key and a primary key and wherein the table
 includes more than two columns.

13. The method of Claim 9, further comprising the step of:
 deleting from memory the space allocated for each semantic **object**
 created for a **relational database table** having a column that is a
 foreign key and a primary key wherein the table has only two columns.

14. The method of Claim 7...

...for each semantic object created.

16. The method of Claim 7, wherein the database catalog provides
 information indicating the primary keys of a relational database
table but does not provide **relationship information**, the method
 further comprising the steps of:
 displaying a dialog box on the display screen that allows a user to
 indicate two semantic objects in...
 ...create a pair of multivalued object link attributes; and
 linking each object link attribute of the pair of multivalued object
 link attributes to the semantic **objects** created for the **relational**
 database **tables** referenced by the foreign keys.

18. The method of Claim 16, further comprising the steps of:
 determining whether the user indicated that the relationship between...
 ...of the one-to-many relationship and a semantic object associated with a
 many side of the relationship;
 prompting a user to indicate a relational **table** in the existing
relational data that has a foreign key to a **relational table**
 associated with the semantic object on the one side of the
 relationship;
 determining whether the table indicated has more than one non-foreign
 key column...

12/5,K/9 (Item 9 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

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00794289

Data management system

Datenverwaltungssystem

Systeme de gestion de donnees

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PATENT (CC, No, Kind, Date): EP 740258 A2 961030 (Basic)

EP 740258 A3 971229

APPLICATION (CC, No, Date): EP 96106645 960426;

PRIORITY (CC, No, Date): JP 95127518 950428

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-017/30;

ABSTRACT EP 740258 A2

A data management system enables a user to make flexibly correspond relationships between data, which is stored in an existing database and a data file. Further, a program for processing the data file in accordance with the system is also disclosed. A user register includes a relationship between a data unit stored in a existing database (11), a data file and a program for processing the data file. The data file and program both exist outside of the first database (11). After the retrieval of the data unit from the existing database (11), if the corresponding relationship for the retrieved data unit is registered, a program related to the data unit is activated for processing the related data file in response to the user's instruction (12). (see image in original document)

ABSTRACT WORD COUNT: 152

LEGAL STATUS (Type, Pub Date, Kind, Text):

Examination: 020410 A2 Date of dispatch of the first examination
report: 20020221

Application: 961030 A2 Published application (A1with Search Report
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Search Report: 971229 A3 Separate publication of the European or
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980522

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FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	1924
SPEC A	(English)	EPAB96	9131
Total word count - document A			11055
Total word count - document B			0
Total word count - documents A +B			11055

...CLAIMS appropriate one of the data files.

2. A data management system as defined in claim 1, wherein the external relationship storing means stores the external **relational information** in a form of **table** (16) which includes at least one entry each having an identifier corresponding to that of the data unit stored in the first database (11), at...

12/5,K/10 (Item 10 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00699697

SEMANTIC OBJECT MODELING SYSTEM AND METHOD FOR CREATING RELATIONAL DATABASE
SCHEMAS

SEMANTISCHES OBJEKTMODELLIERUNGSSYSTEM UND VERFAHREN UM RELATIONELLE
DATENBANKSCHEMATA HERZUSTELLEN

SYSTEME ET METHODE DE MODELISATION D'OBJETS SEMANTIQUES POUR CREER DES

SCHEMAS DE BASE DE DONNEES RELATIONNELLES

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 727070 A1 960821 (Basic)
EP 727070 B1 990512
WO 9512172 950504

APPLICATION (CC, No, Date): EP 94930429 940913; WO 94US10355 940913

PRIORITY (CC, No, Date): US 145997 931029

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC;
NL; PT; SE

INTERNATIONAL PATENT CLASS: G06F-017/30;

NOTE:

No A-document published by EPO

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Oppn None:	000503 B1	No opposition filed: 20000215
Application:	950809 A	International application (Art. 158(1))
Lapse:	020605 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512, CH 19990512, LI 19990512, GB 19990913, GR 19990512, IE 19990913, PT 19990812, SE 19990512,
Lapse:	010321 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512, CH 19990512, LI 19990512, GB 19990913, IE 19990913, PT 19990812,
Lapse:	001227 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512, CH 19990512, LI 19990512, PT 19990812,
Lapse:	000621 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512, PT 19990812,
Lapse:	000607 B1	Date of lapse of European Patent in a contracting state (Country, date): BE 19990512,
Lapse:	000614 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512,
Lapse:	001213 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512, CH 19990817, LI 19990817, PT 19990812,
Lapse:	010228 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512, CH 19990512, LI 19990512, GB 19990913, PT 19990812,
Lapse:	010606 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19990512, BE 19990512, CH 19990512, LI 19990512, GB 19990913, GR 19990512, IE 19990913, PT 19990812,
Application:	960821 A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	960821 A1	Date of filing of request for examination: 960515
Examination:	980107 A1	Date of despatch of first examination report: 971113

Change: 980805 A1 Title of invention (German) (change)
 Change: 980805 A1 Title of invention (English) (change)
 Change: 980805 A1 Title of invention (French) (change)
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 LANGUAGE (Publication,Procedural,Application): English; English; English
 FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9919	4096
CLAIMS B	(German)	9919	3989
CLAIMS B	(French)	9919	4695
SPEC B	(English)	9919	17484
Total word count - document A			0
Total word count - document B			30264
Total word count - documents A + B			30264

- ...CLAIMS a data entry for the simple value attribute if the maximum cardinality is less than or equal to one; and otherwise automatically creating a separate **relational** database table for the attribute, the separate **relational** database table having at least two columns to store multiple data entries for the simple value attribute and one or more foreign keys that link an entry in the separate **relational** database table to an entry in the **relational** database table created for the semantic object with which the multivalued, simple value attribute is associated.
8. The method of Claim 7, wherein the step of translating...two columns to store multiple data entries for the simple value attribute and one or more foreign keys that link an entry in the separate **relational** data base table to an entry in the **relational** database table created for the semantic object with which the multivalued, simple value attribute is associated.
25. The computer system of Claim 24, wherein the means for...

12/5,K/14 (Item 14 from file: 348)
 DIALOG(R)File 348:EUROPEAN PATENTS
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00422101

Data retrieval system for relational database.
Datenwiedergewinnungssystem fur relationelle Datenbank.
Systeme de recherche de donnees pour base de donnees relationnelle.
 PATENT ASSIGNEE:

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 Takahara, Toshio, 578-1, Futako, Takatsu-ku, Kawasaki-shi, Kanagawa 213,
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 Hirono, Shingo, 3-23-6-403, Nerima, Nerima-ku, Tokyo 176, (JP)
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PATENT (CC, No, Kind, Date): EP 423723 A2 910424 (Basic)
 EP 423723 A3 910925

APPLICATION (CC, No, Date): EP 90119836 901016;

PRIORITY (CC, No, Date): JP 89270047 891017

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/403; G06F-015/40;

CITED PATENTS (EP A): EP 336586 A

CITED REFERENCES (EP A):

REVIEW OF THE ELECTRICAL COMMUNICATION LABORATORIES, vol. 29, nos. 1-2,
 January 1981, pages 32-50; S. HANATA et al.: "Conversational database
 query language"
 PROCEEDINGS VERY LARGE DATA BASES, 6TH INTERNATIONAL CONFERENCE,
 Montreal, 1st - 3rd October 1980, pages 343-349; T. RISCH: "Production

ABSTRACT EP 423723 A2

A data retrieval system for a relational database, for retrieving a relational table which describes the relational database of parts which form data with meaning, includes a link data file (11) for managing link data which include parts sensors which describe command names assigned to parts located at table item positions of the relational table, attribute sensors which describe command names of parts arranged in a row direction of the relational table in correspondence with the command names described by the parts sensors, and mode sensors which describe command names of parts arranged in a column direction of the relational table in correspondence with the command names described by the parts sensors, an actual data file (12) for managing actual data of the command names of the parts which form the relational table, and a link processing part (14) responsive to a retrieval request which requests retrieval of the relational table, for reading a command name description corresponding to a retrieval condition of the retrieval request by referring to the link data file and for obtaining the actual data described by the command name description from the actual data file.

ABSTRACT WORD COUNT: 194

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 910424 A2 Published application (Alwith Search Report
;A2without Search Report)
Search Report: 910925 A3 Separate publication of the European or
International search report
Examination: 920108 A2 Date of filing of request for examination:
911112
Examination: 950329 A2 Date of despatch of first examination report:
950208
Refusal: 980318 A2 Date on which the European patent application
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FULLTEXT AVAILABILITY:

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CLAIMS A	(English)	EPABF1	619
SPEC A	(English)	EPABF1	4081
Total word count - document A			4700
Total word count - document B			0
Total word count - documents A + B			4700

...CLAIMS retrieval system as claimed in any of claims 1 to 6,
characterized in that said link processing part (14) includes means
for modifying an arbitrary **data** in the **relational table** by
modifying one or a plurality of command names in said link data file
(11) and/or said actual data file (12).

8. The data...

...in any of claims 1 to 7, characterized in that the retrieval condition
of said retrieval request requests retrieval of only a portion of the
relational table.

9. The **data** retrieval system as claimed in claim 8, wherein the
retrieval condition of said retrieval request specifies one of
logical sum and logical product of command...

12/5,K/18 (Item 18 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00367287

Data base management system and method therefor

Datenbankverwaltungssystem und Verfahren hierfür

Système de gestion de base de données et méthode correspondante

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 351210 A2 900117 (Basic)

EP 351210 A3 921014

EP 351210 B1 000105

APPLICATION (CC, No, Date): EP 89307080 890712;

PRIORITY (CC, No, Date): US 219512 880715

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-017/30

CITED REFERENCES (EP A):

PROCEEDINGS INTERNATIONAL SYMPOSIUM ON DATABASES IN PARALLEL AND

DISTRIBUTED SYSTEMS 5 December 1988, AUSTIN, USA pages 202 - 209; M.

SAMY GAMAL-ELDIN ET AL: 'Integrating Relational Databases with Support for Updates'

7TH INTERNATIONAL CONFERENCE ON VERY LARGE DATA BASES 9 September 1981,

CANNES, FRANCE pages 2 - 12; C. J. DATE: 'REFERENTIAL INTEGRITY'

THE SECOND INTERNATIONAL CONFERENCE ON COMPUTERS AND APPLICATIONS,

23rd-27th June 1987, Beijing, CN, pages 733-741; K.K. CHAN et al.: "An implementation algorithm for integrity enforcement";

CITED REFERENCES (EP B):

PROCEEDINGS INTERNATIONAL SYMPOSIUM ON DATABASES IN PARALLEL AND

DISTRIBUTED SYSTEMS 5 December 1988, AUSTIN, USA pages 202 - 209; M.

SAMY GAMAL-ELDIN ET AL: 'Integrating Relational Databases with Support for Updates'

7TH INTERNATIONAL CONFERENCE ON VERY LARGE DATA BASES 9 September 1981,

CANNES, FRANCE pages 2 - 12; C. J. DATE: 'Referential Integrity'

THE 2ND INTERNATIONAL CONFERENCE ON COMPUTERS AND APPLICATIONS, June

23-27, 1987, BEIJING, CHINA, pages 733-741; K.K. CHAN et al.: "An Implementation Algorithm For Integrity Enforcement".;

ABSTRACT EP 351210 A2

A method is disclosed for deferring enforcement of referential constraints in large-scale data base operations such as the population or loading of relational tables 10, 12. First, the new rows are loaded in a Data Load phase 24 into the tables, and information on the new rows and their constraints is extracted and sorted 26 into a sorted key data set 68. Any primary indexes 22 required for constraint checking are then updated 28 using the sorted key data set. The new rows are then checked 70 for constraint violations, such violations are rectified 72 to restore the table's referential integrity, and a deletion data set 80 is produced. The deletion data set is merged and sorted 86 with row information 53 stored during loading, and the result is used to copy 88 the new rows violating referential constraints to a separate discard data set 48 where they can be corrected and reloaded into the table. Finally, an error summary report 36 is generated for use in correcting the discard data set. (see image in original document)

ABSTRACT WORD COUNT: 181

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Oppn None: 001220 B1 No opposition filed: 20001006

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Application: 900117 A2 Published application (Alwith Search Report ;A2without Search Report)

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Search Report: 921014 A3 Separate publication of the European or International search report

Examination: 930707 A2 Date of despatch of first examination report: 930525

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Change: 990414 A2 Title of invention (English) (change)

Change: 990414 A2 Title of invention (French) (change)

Change: 990421 A2 Title of invention (German) (change)

Change: 990421 A2 Title of invention (English) (change)

Change: 990421 A2 Title of invention (French) (change)
 Change: 990428 A2 Title of invention (German) (change)
 Change: 990428 A2 Title of invention (English) (change)
 Change: 990428 A2 Title of invention (French) (change)
 LANGUAGE (Publication,Procedural,Application): English; English; English
 FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200001	919
CLAIMS B	(German)	200001	873
CLAIMS B	(French)	200001	1077
SPEC B	(English)	200001	5347
Total word count - document A			0
Total word count - document B			8216
Total word count - documents A + B			8216

12/5,K/20 (Item 20 from file: 348)
 DIALOG(R)File 348:EUROPEAN PATENTS
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00367282

Method of performing operations in a relational data base management system.

Verfahren zur Durchführung von Operationen in einem relationalen Datenbankverwaltungssystem.

Methode d'execution d'operations dans un systeme relationel de gestion de base de donnees.

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 351209 A2 900117 (Basic)

EP 351209 A3 921014

EP 351209 B1 940629

APPLICATION (CC, No, Date): EP 89307075 890712;

PRIORITY (CC, No, Date): US 219513 880715

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/40;

CITED REFERENCES (EP A):

7TH INTERNATIONAL CONFERENCE ON VERY LARGE DATABASES 9 September 1981, CANNES, FRANCE pages 2 - 12; C. J. DATE: 'REFERENTIAL INTERGRITY'

4TH INTERNATIONAL CONFERENCE ON ENTITY-RELATIONSHIP APPROACH 28 October 1985, CHICAGO, USA pages 295 - 302; A. DOGAC ET AL: 'The Design and

Implementation of an Integrity Subsystem for the Relational DBMS RAP' TECHNOLOGY AND SCIENCE OF INFORMATICS. vol. 6, no. 3, June 1987, OXFORD

GB pages 201 - 220; G. GARDARIN ET AL: 'Sabrina : a relational database system developed in a research environment';

ABSTRACT.EP 351209 A2

A method is disclosed for enforcing referential constraints on a record-by-record basis, immediately before or after each record is manipulated and while the record is still accessed, significantly improving the system's performance. Each record is visited only once to do both the constraint checking and the manipulation (insert/update/delete). If the constraint checking fails, then the entire relational operation of which the record manipulation is a part is backed out. For insertions, each record is first inserted 30, and then constraints respecting the record are enforced 32,34. For updates, the record is updated 48 after constraints respecting the record's primary key are enforced 40,42, and before constraints respecting its foreign key(s) are enforced 44,46. Deletions are performed 52 before the

constraints on the deleted record are enforced 54,56. Cascade deleted 58 are handled recursively 60. The method correctly processes cyclic constraints and self-referencing rows without special handling. (see image in original document)

ABSTRACT WORD COUNT: 155

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 900117 A2 Published application (Alwith Search Report
;A2without Search Report)
Examination: 900711 A2 Date of filing of request for examination:
900512
Search Report: 921014 A3 Separate publication of the European or
International search report
Examination: 930623 A2 Date of despatch of first examination report:
930507
Grant: 940629 B1 Granted patent
Oppn None: 950621 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPBBF1	470
CLAIMS B	(English)	EPBBF1	480
CLAIMS B	(German)	EPBBF1	450
CLAIMS B	(French)	EPBBF1	477
SPEC A	(English)	EPBBF1	10268
SPEC B	(English)	EPBBF1	10349
Total word count - document A			10738
Total word count - document B			11756
Total word count - documents A + B			22494

...CLAIMS claimed in claim 6, wherein the step (a) of deleting the record is done before the step (b) of identifying any violation.

10. In a **relational data** base management system having **tables** consisting of rows of data, a method of manipulating rows and enforcing referential constraints comprising the steps of:
(a) executing an operation which manipulates at...

12/5,K/21 (Item 21 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00362874

Data storage, retrieval and transmission in computer systems.

Datenspeicherung, -wiederauffindung und -ubertragung in Rechnersystemen.

Archivage, ressaisie et transmission de donnees dans des systemes d'ordinateurs.

PATENT ASSIGNEE:

International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (applicant designated states: BE;CH;DE;ES;FR;GB;IT;LI;NL;SE)

INVENTOR:

Alexander, Virginia Lee, 10506 Mourning Dove Drive, Austin Texas 78750, (US)
Gaudet, James Louis, 1500 Creek Hollow, Austin Texas 78754, (US)
Jordan II, Lloyd Eugene, 13505 Bayswater Garden, Austin Texas 78729, (US)
Hernandez, Raymond, 13304 Council Bluff Drive, Austin Texas 78727, (US)

LEGAL REPRESENTATIVE:

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Intellectual Property Department Hursley Park, Winchester Hampshire
SO21 2JN, (GB)

PATENT (CC, No, Kind, Date): EP 336586 A2 891011 (Basic)
EP 336586 A3 921028

APPLICATION (CC, No, Date): EP 89302584 890316;

PRIORITY (CC, No, Date): US 179316 880408

DESIGNATED STATES: BE; CH; DE; ES; FR; GB; IT; LI; NL; SE

INTERNATIONAL PATENT CLASS: G06F-015/40;

CITED REFERENCES (EP A):

ABSTRACT EP 336586 A2

In order to provide for the efficient storing, accessing and/or transmission of a **relational data table** of a computer system, the **table** is stored as a plurality of records, arranged successively in series, said records comprising a plurality of data ("D") records of variable length and including items of data for a particular row arranged serially in succession, thereby forming a plurality of data rows and columns with each item of data in each D record arranged in a separate column; and a plurality of column descriptor ("C") records, each C record being associated with one table column and specifying:

(i) the identification of prescribed attributes of the column associated with the respective C record, such as column name, data type, codepage, etc.;

(ii) the identification of the associated D record in a table row which contains the items of data to be located in the associated column;

(iii) the maximum number of characters forming an item of data in the associated column if the number is not implied by the data type therein; and

(iv) the position of the associated column in associated D record, whereby null or varying length data items which terminate a D record are compressible. (see image in original document) (see image in original document)

ABSTRACT WORD COUNT: 219

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 891011 A2 Published application (Alwith Search Report ;A2without Search Report)

Examination: 900425 A2 Date of filing of request for examination: 900224

Search Report: 921028 A3 Separate publication of the European or International search report

Change: 930303 A2 Representative (change)

Examination: 950118 A2 Date of despatch of first examination report: 941206

Withdrawal: 961030 A2 Date on which the European patent application was deemed to be withdrawn: 960410

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	859
SPEC A	(English)	EPABF1	4262
Total word count - document A			5121
Total word count - document B			0
Total word count - documents A + B			5121

...ABSTRACT A2

In order to provide for the efficient storing, accessing and/or transmission of a **relational data table** of a computer system, the **table** is stored as a plurality of records, arranged successively in series, said records comprising a plurality of data ("D") records of variable length and including...

...CLAIMS A3

1. A **relational data table** for a computer system comprising a plurality of items of data arranged logically at the intersections of a plurality of table rows and a plurality...

...associated data item column in the associated D record;

whereby null or varying length data items which terminate a D record are compressible.

2. A **relational data table** as claimed in claim 1, wherein each C record includes an indication of the maximum number of characters forming an item of data in the associated column, if that number is not implied by the type of data in the **data** item.

3. A **relational data table** as claimed in claim 1 or claim 2, wherein the records are arranged in series with all of the C records preceding the D records .

4. A **relational data table** as claimed in any preceding claim, wherein a header ("H") record is included which H record specifies some or all of the following information:
(i...

...the table;

(ii) the length of the H record;

(iii) the codepage environment of the table;

(iv) the date and time of writing of the **table** .

5. A **relational data table** as claimed in any preceding claim, which further includes a table ("T") record which specifies one or more of the following items of information:
(i...

...ii) the length of the T record;

(iii) the number of C records in the table;

(iv) the name for the data contained in the **table** .

6. A **relational data table** as claimed in any preceding claim, wherein each D record further specifies its own length.

7. A **relational data table** as claimed in any preceding claim, wherein each D record includes a code which identifies such D record, and wherein the identification codes for the D records of any given row in the table are different from each other and in ascending order.

8. A **relational data table** as claimed in any preceding claim, wherein the identification of the associated D record in the C record includes the identification code.

9. A **relational data table** as claimed in any preceding claim, wherein each C record further specifies its own length.

10. A **relational data table** as claimed in any preceding claim, wherein the column identification of each C record includes a name for the associated column.

11. A **relational data table** as claimed in any preceding claim, wherein the C record further specifies whether nulls are permitted to be entered in the associated column.

12. A...

...a record medium thereof a relational data table as claimed in any preceding claim.

17. A method of storing for accessing and/or transmitting, a **relational data table** of a digital computer system comprising a plurality of items of data logically arranged at the intersections of a plurality of table rows and a...

12/5,K/22 (Item 22 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00362866

Relational databases.

Relationale Datenbasis.

Bases de donnees relationnelles.

PATENT ASSIGNEE:

International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (applicant designated states: BE;CH;DE;FR;GB;IT;LI;NL;SE)

INVENTOR:

Chang, Philip Yen-Tang, 6221 Ledge Mountain Drive, Austin Texas 78731, (US)

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Obermann, David Francis, 3308 Perry Lane, Austin Texas 78731, (US)

Trumble, Mary Kathleen, 1411 Gracy Farms Lane, No. 89, Austin Texas 78758, (US)

LEGAL REPRESENTATIVE:

Killgren, Neil Arthur (32601), IBM United Kingdom Limited Intellectual
Property Department Hursley Park, Winchester Hampshire SO21 2JN, (GB)

PATENT (CC, No, Kind, Date): EP 336579 A2 891011 (Basic)

EP 336579 A3 920902

APPLICATION (CC, No, Date): EP 89302576 890316;

PRIORITY (CC, No, Date): US 179191 880408

DESIGNATED STATES: BE; CH; DE; FR; GB; IT; LI; NL; SE

INTERNATIONAL PATENT CLASS: G06F-015/40;

CITED REFERENCES (EP A):

C. J. DATE 'An Introduction to Database Systems' 1981 , ADDISON-WESLEY
PUBLISHING COMPANY , USA 3rd Edition, Chapter 6: 'System R Data
Structure'

ELECTRONIC DESIGN. vol. 30, no. 13, June 1982, DENVILLE, NEW JERSEY pages
89 - 96; K. R. DAY: 'Micro-based DBMS manages even relational data
bases';

ABSTRACT EP 336579 A2

A relational database system having mixed data comprises means for
selectively designating a column in a database table as being for single
byte character set data only. Preferably, the user application can
specify the subtype of character data within a column as the column is
created or added by specifying FOR SBCS or FOR MIXED in either the CREATE
TABLE statement or the ALTER TABLE statement. This can be done by
specifying the subtype of the character data types including CHAR,
VARCHAR, and LONG VARCHAR.

Along with specifying the subtype as either for single byte data or for
mixed data, means are preferably provided for specifying the codepage to
be used for the column of the table in the database. The subtype of the
character can then be recorded in terms of the code page attributes of
the character data type as stored in the database system catalogs. This
encoding scheme provides an efficient method of determining whether a
column is only for single byte character set data or mixed data, and at
the same time knowing the correct codepage that is to be used for that
column simply by querying the code page columns within the database
system catalogs.

ABSTRACT WORD COUNT: 204

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 891011 A2 Published application (Alwith Search Report
;A2without Search Report)

Examination: 900425 A2 Date of filing of request for examination:
900224

Change: 910123 A2 Representative (change)

Search Report: 920902 A3 Separate publication of the European or
International search report

Change: 930210 A2 Representative (change)

Withdrawal: 950329 A2 Date on which the European patent application
was deemed to be withdrawn: 941001

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1114
SPEC A	(English)	EPABF1	8522
Total word count - document A			9636
Total word count - document B			0
Total word count - documents A + B			9636

...CLAIMS double byte and single byte data; and
second processing logic, faster than the first processing logic,
for processing columns of data designated as single byte **data** only.

16. A **relational** database system comprising:
a plurality of columns in a **table** of data:
means for specifying a plurality of character data types for each
of the plurality of columns; and
means for specifying a plurality of...

...for any one of the columns and a plurality of code page attributes for any one of the columns.
21. A method for processing a **table** of mixed **data** in a **relational** database system, the method comprising tagging a column of data as being for single byte character set data only.
22. A method as claimed in...

12/5,K/23 (Item 23 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00333671

MEMORY SPACED ARRAY FOR STORING RELATIONAL DATA
SPEICHERRAUMFEL DANORDNUNG ZUR SPEICHERUNG VON RELATIONALEN DATEN
RESEAU A ESPACES MEMOIRE POUR MEMORISER DES DONNEES RELATIONNELLES
PATENT ASSIGNEE:

GORBATENKO, George G., (1094630), 106 Wildwood Bay Drive, St. Paul, MN 55115, (US), (applicant designated states: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE)

INVENTOR:

GORBATENKO, George G., 106 Wildwood Bay Drive, St. Paul, MN 55115, (US)

LEGAL REPRESENTATIVE:

Cross, Rupert Edward Blount et al (42891), BOULT WADE TENNANT 27 Furnival Street, London EC4A 1PQ, (GB)

PATENT (CC, No, Kind, Date): EP 380574 A1 900808 (Basic)
EP 380574 A1 920722
EP 380574 B1 970108
WO 8903559 890420

APPLICATION (CC, No, Date): EP 88909146 881004; WO 88US3424 881004

PRIORITY (CC, No, Date): US 105872 871007

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE

INTERNATIONAL PATENT CLASS: G06F-012/00;

CITED PATENTS (EP A): GB 2178569 A; US 4128891 A; US 4232365 A

CITED PATENTS (WO A): US 4283771 A; US 4221003 A; US 4128891 A; US 4644471 A; US 4780810 A; US 4606002 A; US 4474196 A; US 4514826 A; US 4779192 A

CITED REFERENCES (EP A):

See also references of WO8903559

See also references of WO8903559;

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 900808 A1 Published application (A1with Search Report ;A2without Search Report)
Examination: 900808 A1 Date of filing of request for examination: 900403
Search Report: 920722 A1 Drawing up of a supplementary European search report: 920603
Examination: 940629 A1 Date of despatch of first examination report: 940511
*Assignee: 960327 A1 Applicant (name, address) (change)
Grant: 970108 B1 Granted patent
Lapse: 971015 B1 Date of lapse of the European patent in a Contracting State: AT 970108
Lapse: 971203 B1 Date of lapse of the European patent in a Contracting State: AT 970108, BE 970108
Oppn None: 980107 B1 No opposition filed
Lapse: 980121 B1 Date of lapse of the European patent in a Contracting State: AT 970108, BE 970108, CH 970108, LI 970108
Lapse: 980121 B1 Date of lapse of the European patent in a Contracting State: AT 970108, BE 970108, CH 970108, LI 970108
Lapse: 980311 B1 Date of lapse of the European patent in a Contracting State: AT 970108, BE 970108, CH 970108, LI 970108, SE 970408

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB97	5166
CLAIMS B	(German)	EPAB97	4972
CLAIMS B	(French)	EPAB97	5722
SPEC B	(English)	EPAB97	14166
Total word count - document A			0
Total word count - document B			30026
Total word count - documents A + B			30026

MEMORY SPACED ARRAY FOR STORING RELATIONAL DATA

12/5,K/25 (Item 25 from file: 348)
 DIALOG(R)File 348:EUROPEAN PATENTS
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00313105

Information processing system with customisable input/output functions.
 Datenverarbeitungsanlage mit Anpassung der Ein-/Ausgabe-Funktionen.
 Systeme de traitement de l'information avec adaptation des fonctions
 entrees/sorties.

PATENT ASSIGNEE:

Hitachi Maxell Ltd., (227750), No 1-1-88, Ushitora Ibaraki-shi, Osaka-fu,
 (JP), (applicant designated states: DE;FR;GB)

INVENTOR:

Nakamura, Takashi, 4-6, Togashira-6-chome, Toride-shi, (JP)

LEGAL REPRESENTATIVE:

Senior, Alan Murray et al (35712), J.A. KEMP & CO., 14 South Square,
 Gray's Inn, London WC1R 5LX, (GB)

PATENT (CC, No, Kind, Date): EP 299612 A2 890118 (Basic)
 EP 299612 A3 900418
 EP 299612 B1 950208

APPLICATION (CC, No, Date): EP 88305125 880606;

PRIORITY (CC, No, Date): JP 87143817 870609; JP 87143818 870609

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-003/00;

CITED PATENTS (EP A): GB 2045487 A; GB 2045487 A; GB 2045487 A; EP 190733 A

ABSTRACT EP 299612 A2

An information processing system comprising a 2-dimensional table (2) having fields (2a, 2b) corresponding to input or output devices (3), fields (2c) corresponding to data items, and information recording areas at intersections of said fields, and a processing program (1) having instructions prepared in correspondence to said input or output devices, said intersecting recording areas recording relational information which links each input or output device with said data items, one of said instructions making access to a corresponding device field to obtain relational information which specifies one or more data items pertinent to the device, so that said processing program implements processing on the data item(s) for the input or output device.

ABSTRACT WORD COUNT: 116

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 890118 A2 Published application (A1with Search Report
 ;A2without Search Report)
 Search Report: 900418 A3 Separate publication of the European or
 International search report
 *Assignee: 900816 A2 Applicant (transfer of rights) (change):
 Hitachi Maxell Ltd. (227750) No 1-1-88,
 Ushitora Ibaraki-shi Osaka-fu (JP) (applicant
 designated states: DE;FR;GB)
 Examination: 901017 A2 Date of filing of request for examination:
 900824
 Examination: 930127 A2 Date of despatch of first examination report:
 921215
 Grant: 950208 B1 Granted patent
 Oppn None: 960131 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPBBF2	584
CLAIMS B	(English)	EPBBF2	506
CLAIMS B	(German)	EPBBF2	450
CLAIMS B	(French)	EPBBF2	599
SPEC A	(English)	EPBBF2	3701
SPEC B	(English)	EPBBF2	3713
Total word count - document A			4285
Total word count - document B			5268
Total word count - documents A + B			9553

...CLAIMS device field so as to obtain pertinent data item(s) and said positional information.

3. An information processing system according to claim 1, wherein said **record table** or **relational information** is accessed externally for the replacement of contents.

4. An information processing system according to claim 2, wherein said record table or positional information is...

...wherein said data items comprises items which are subjected to input by input devices or items which are subjected to output by output devices, said **relational information** recorded at intersecting areas of said 2-dimensional record **table** comprising flag information by which said input or output devices are linked with one or more data items.

6. An information processing system according to claim 1, wherein said record table is incorporated in a terminal unit or host computer having an IC card reader-writer, said recording **table** or **relational information** being replaced using an IC card.

7. An information processing system according to claim 2, wherein said recording table is incorporated in a terminal unit...

...CLAIMS 5) prepared in correspondence with said input or output devices; said intersecting recording areas corresponding to said storage areas of said memory having stored therein **relational information** which links each input or output device with said data items that are relevant for the particular input and output devices; and

one of said instructions when executed by said processor causes means in said processor to access a device field of said two-dimensional **table** to obtain **relational information** which specifies one or more data items relevant to a device corresponding to said device field thereby causing said processing program to perform a process said relevant data items linked to said device by said **relational information**.

2. An information processing system according to claim 1, wherein said relational information comprises:
positional information which indicates data reading positions for input device...

...as to obtain pertinent data items and said positional information.

3. An information processing system according to claim 1 or 2, wherein the two-dimensional **table** or **relational information** is obtained from a device external to said system and is stored in said memory.

4. An information processing system according to claim 3, wherein said data items comprise:
items which are subjected to output devices, said **relational information** stored at intersecting areas of said two-dimensional **table** including flag information which indicates a link between said input or output devices and one or more data items.

5. An information processing system according to any preceding claim, wherein said two-dimensional **table** or **relational information** is replaced using a two-dimensional **table** or **relational information** stored on an IC card.

6. An information processing system according to any preceding claim, wherein:
said table includes fields of input and output devices...

12/5,K/26 (Item 26 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00283832

Improved relational data base system
Relationelles Datenbanksystem
Systeme de base de donnees relationnelle
PATENT ASSIGNEE:

WANG LABORATORIES, INC., (333566), 600 Technology Park Drive, Billerica,
MA 01821, (US), (applicant designated states: BE;DE;FR;GB)

INVENTOR:

Huber, Val J., 9 Cloverhill Drive, Chelmsford, MA 01824, (US)

LEGAL REPRESENTATIVE:

Behrens, Dieter, Dr.-Ing. et al (1701), Wuesthoff & Wuesthoff Patent- und
Rechtsanwalte Schweigerstrasse 2, 81541 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 274392 A2 880713 (Basic)
EP 274392 A3 910227
EP 274392 B1 961211

APPLICATION (CC, No, Date): EP 88100118 880107;

PRIORITY (CC, No, Date): US 1474 870108

DESIGNATED STATES: BE; DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-017/30;

CITED REFERENCES (EP A):

IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, vol. SE-11, no. 7, July 1985,
pages 574-583, IEEE, New York, US; R.P. BRAEGGER et al.: "Gambit: An
interactive database design tool for data structures, integrity
constraints, and transactions"

IDEM

PROCEEDINGS OF THE INTERNATIONAL WORKSHOP ON EXPERT DATABASE SYSTEMS,
Kiawah Island, South Carolina, 24th - 27th October 1984, Workshop 1;
Proc. 1984, pages 309-331, Benjamin Cummings, Menlo Park, CA, US; A.
SHEPHERD et al.: "Constraint management in expert database systems"

PROCEEDINGS OF THE INTERNATIONAL WORKSHOP ON EXPERT DATABASE SYSTEMS,
Kiawah Island, South Carolina, 24th - 27th October 1984, Workshop 1;
Proc. 1984, pages 351-368, Benjamin Cummings, Menlo Park, CA, US; M.
MORGENSTERN: "The role of constraints in databases, expert systems, and
knowledge representation"

IEEE COMPINT - COMPUTER AIDED TECHNOLOGIES, Montreal, Quebec, 9th - 13th
September 1985, pages 313-320, IEEE, New York, US; K.R. DITTRICH et
al.: "A multilevel approach to design database systems and its basic
mechanisms";

ABSTRACT EP 274392 A2

Apparatus used in a relational data base system to maintain a
dependence between a user-defined field in a row of one base table (101)
and the state of a set of rows in another base table (101). There are
three kinds of dependent fields: a count field (107) which contains a
count of the rows in the set, a sum field (105) which is the sum of a
field in the rows of the set, and a base copy down field (113) which is a
field in the rows of the set which contains a copy of a value in a field
in the row of the one base table. The two base tables make up a
referenced-referencing pair and the row from the one table has a primary
key (103) which is used as a foreign key (111) in the set of rows of the
other base table. The apparatus consists of components (313, 306) in the
data dictionary which define the user-defined dependent field and the
nature of the dependence, including any conditions thereon, and
components (319) in the data base system's run time system for
maintaining the dependence. Each time the state of a row in the
referencing base table is altered, the run time system uses the data
dictionary to determine whether there is a user-defined dependent field,
and if there is, what kind of dependent field it is. Code in the run time
system then reestablishes the dependence as required for the altered row.

ABSTRACT WORD COUNT: 253

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 880713 A2 Published application (Alwith Search Report

;A2without Search Report)

Search Report: 910227 A3 Separate publication of the European or International search report

Examination: 911023 A2 Date of filing of request for examination: 910827

Examination: 941117 A2 Date of despatch of first examination report: 940930

*Assignee: 960731 A2 Applicant (transfer of rights) (change): WANG LABORATORIES, INC. (333566) 600 Technology Park Drive Billerica, MA 01821 (US) (applicant designated states: BE;DE;FR;GB)

*Assignee: 960731 A2 Previous applicant in case of transfer of rights (change): WANG LABORATORIES INC. (333560) One Industrial Avenue Lowell, MA 01851 (US) (applicant designated states: BE;DE;FR;GB)

Grant: 961211 B1 Granted patent

Lapse: 971001 B1 Date of lapse of the European patent in a Contracting State: BE 961211

Oppn None: 971203 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	721
CLAIMS B	(English)	EPAB96	1036
CLAIMS B	(German)	EPAB96	843
CLAIMS B	(French)	EPAB96	1211
SPEC A	(English)	EPABF1	12827
SPEC B	(English)	EPAB96	12910
Total word count - document A			13549
Total word count - document B			16000
Total word count - documents A + B			29549

...CLAIMS B1

1. A **relational** data base system which includes a data dictionary means (202), a first base table (101), and a second base table (101), said data dictionary means...

...dependence as defined in the data dictionary whenever any data base operation alters the state of a row in the other of the data base **tables**.

2. The **relational data** base system as set forth in claim 1 and further characterized in that:
the dependence defining means further includes condition defining means (306, 327) for...

...in that:

the condition is dependent on the value of a second user-defined field in the rows of the other of the data base **tables**.

7. The **relational data** base system as set forth in claim 5 and further characterized in that:

the condition is dependent on a first value defined by the **relational** data base system.

8. The relational data base system as set forth in claim 4 and further characterized in that:
the aggregate value is a...

12/5,K/28 (Item 28 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00070228

Method for storing and accessing a relational data base.

Verfahren zur Speicherung von und zum Zugriff zu einer Relationsdatenbasis.

Methode pour la mise en memoire et pour l'accès d'une base de donnee relationnelle.

PATENT ASSIGNEE:

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(applicant designated states: BE;CH;DE;FR;GB;IT;LI;NL;SE)

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PATENT (CC, No, Kind, Date): EP 79465 A2 830525 (Basic)
EP 79465 A3 850123

APPLICATION (CC, No, Date): EP 82109511 821014;

PRIORITY (CC, No, Date): US 321003 811113

DESIGNATED STATES: BE; CH; DE; FR; GB; IT; LI; NL; SE

INTERNATIONAL PATENT CLASS: G06F-015/40;

CITED PATENTS (EP A): DE 1774886 A

CITED REFERENCES (EP A):

COMMUNICATIONS OF THE ASSOCIATION FOR COMPUTING MACHINERY, vol. 24, no.
10, October 1981, pages 632-646, New York, USA; D.D. CHAMBERLIN et al.:

"A history and evaluation of system R"

FOURTH INTERNATIONAL CONFERENCE ON VERY LARGE DATA BASES, West-Berlin,
13th-15th September 1978, pages 288-298, IEEE, New York, USA; S.Y.W. SU
et al.: "Micronet: A microcomputer network system for managing
distributed relational databases";

ABSTRACT EP 79465 A2

Method for storing and accessing a relational data base.

An improved method for storing and accessing **relational** data bases in
information processing systems. The data base records (44) are
synthesized into a summary sorted list (45) of unique data elements. The
data elements are related by virtue of their positions in the sorted list
to pointers stored in an index table (43) which is an isomorphic mapping
of the data base records from which the summary sorted list was derived.
The index **table** captures the record content and juxtaposition of the
record fields in a **relational** manner and yields the effect of a
totally inverted data base file. The index table pointers facilitate high
speed **relational** query processing with a minimum allocation of memory.

ABSTRACT WORD COUNT: 126

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 830525 A2 Published application (Alwith Search Report
;A2without Search Report)
Examination: 831123 A2 Date of filing of request for examination:
830915
Change: 831221 A2 Representative (change)
Search Report: 850123 A3 Separate publication of the European or
International search report
Examination: 860723 A2 Date of despatch of first examination report:
860505
*Examination: 861203 A2 Date of despatch of first examination report
(change): 860605
Change: 870121 A2 Representative (change)
Withdrawal: 870902 A2 Date on which the European patent application
was deemed to be withdrawn: 870216

LANGUAGE (Publication,Procedural,Application): English; English; English

...ABSTRACT A2

Method for storing and accessing a relational data base.

An improved method for storing and accessing **relational** data bases in
information processing systems. The data base records (44) are
synthesized into a summary sorted list (45) of unique data elements. The
data...

...in an index table (43) which is an isomorphic mapping of the data base
records from which the summary sorted list was derived. The index **table**
captures the record content and juxtaposition of the **record** fields in a
relational manner and yields the effect of a totally inverted data base
file. The index table pointers facilitate high speed **relational** query

processing with a minimum allocation of memory.

12/5,K/45 (Item 17 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00739252 **Image available**

INTELLECTUAL PROPERTY ASSET MANAGER (IPAM) FOR CONTEXT PROCESSING OF DATA OBJECTS

GESTIONNAIRE D'ACTIF DE PROPRIETE INTELLECTUELLE POUR LE TRAITEMENT CONTEXTUEL D'OBJETS DE DONNEES

Patent Applicant/Assignee:

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Legal Representative:

LEE Michael Q (et al) (agent), Sterne, Kessler, Goldstein & Fox P.L.L.C.,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200052618 A2-A3 20000908 (WO 0052618)

Application: WO 2000US5080 20000229 (PCT/WO US0005080)

Priority Application: US 99260079 19990302

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ

TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/30

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 39714

English Abstract

Context data processing is described herein. One or more contexts are selected. Each context includes one or more attributes, and a plurality of data objects that satisfy the attributes. A list of data objects contained in the selected contexts is displayed. At least some of the data objects in the selected contexts are processed. Such processing may involve generating claim trees, citation trees, and data object families, which may be displayed using hyperbolic trees. In an embodiment, the contexts are groups. In other embodiment, the contexts are each associated with a data object type. In this latter embodiment, the contexts include data objects of their respective data object types.

French Abstract

L'invention concerne le traitement de donnees contextuelles. On choisit

au moins un contexte. Chaque contexte renferme plusieurs attributs, ainsi que plusieurs donnees qui satisfont a ces attributs. Une liste d'objets de donnees contenus dans les contextes choisis est presentee. Plusieurs objets de donnees des contextes choisis sont traites, ce qui peut impliquer la creation d'arborescences de revendications et de citations, ainsi que des familles d'objets de donnees que l'on peut presenter a l'aide d'arborescences hyperboliques. Dans un mode de realisation, chaque contexte est associe a un type d'objet de donnees. En l'occurrence, les contextes renferment des objets de donnees de leurs types d'objets de donnees respectifs.

Legal Status (Type, Date, Text)

Publication 20000908 A2 Without international search report and to be republished upon receipt of that report.
Examination 20001207 Request for preliminary examination prior to end of 19th month from priority date
Search Rpt 20010426 Late publication of international search report
Republication 20010426 A3 With international search report.
Search Rpt 20010426 Late publication of international search report
Correction 20020131 Corrected version of Pamphlet: pages 1/99-99/99, drawings, replaced by new pages 1/93-93/93; due to late transmittal by the receiving Office
Republication 20020131 A3 With international search report.

Fulltext Availability:
Claims

Claim

... data objects, such as searching for the term "limicroprocessor" to identify patents and patent applications and other data objects that relate to microprocessors. More generally, **relationship information** can be obtained from (1) referential integrity; (2) **relational tables**; (3) searching the database(s)- (4) text searches; and/or (5) manual analysis (see FIG, 56).

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FIG. 55
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')-OC...

12/5,K/47 (Item 19 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00543747

OBJECT TO RELATIONAL DATABASE MAPPING INFRASTRUCTURE IN A CUSTOMER CARE AND BILLING SYSTEM
INFRASTRUCTURE POUR MISE EN CORRESPONDANCE D'OBJETS AVEC UNE BASE DE DONNEES RELATIONNELLE DANS UN SYSTEME DE SOINS ET DE FACTURATION CLIENTS

Patent Applicant/Assignee:

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HOHMANN Andreas,
BALDWIN James,
SCHMELZ Frank,

Inventor(s):

ATKINS Stephan,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200007120 A1 20000210 (WO 0007120)
Application: WO 99US16765 19990726 (PCT/WO US9916765)
Priority Application: US 9894459 19980729; US 99353591 19990715

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG
US UZ VN YU ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM
AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM
GA GN GW ML MR NE SN TD TG

Main International Patent Class: G06F-017/30

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8413

English Abstract

A system that uses an object to relational database mapping infrastructure to map C++ objects and their relationships to and from a relational database. The mapping is facilitated by mapping files which describe an object and how the object corresponds to a table in the database. Overflow tables are provided in the database when an object is associated with more than a predetermined number of other objects, such as two. A C++ reflection layer allows access to attributes and methods of C++ objects at run-time by name. Mapped data is also memory buffered during the transferring of data to and from the database.

French Abstract

La presente invention concerne un systeme utilisant une infrastructure de mise en correspondance de base de donnees relationnelle pour etabli des correspondances entre des objets C++ et les relations que ceux-ci ont avec une base de donnees relationnelle. La mise en correspondance est facilitee par des fichiers de correspondances qui decrivent un objet et la facon dont ces objets correspondent avec une table de la base de donnees. La base de donnees comporte des tables de debordement des qu'un objet est associe a plus d'un nombre determine d'autres objets, deux par exemple. Une couche de reflexion C++ permet d'accéder par le nom a des attributs et a des methodes concernant les objets C++ pendant l'execution. Les données mises en correspondance peuvent etre egalement gerees par memoire tampon pendant le transfert de donnees avec la base de donnees.

Fulltext Availability:

Claims

Claim

1 An apparatus, comprising:
a relational database system storing object data for **objects** and
an **association** of the **objects** in **relational** database **tables**; and
an application system mapping the data between the objects
and the database tables using mapping files and having a reflection layer
allowing mapping of...

...to and from the database table.

5 An customer care and billing apparatus, comprising:
1 5 a relational database system storing object data for customer
objects and an **association** of the **objects** in **relational** database
tables and
including an overflow **tables** linked to the database tables; and
an application system mapping the data between the objects
and the database tables using mapping files, having a C...

12/5,K/50 (Item 22 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00482067

METHOD AND SYSTEM FOR MANAGING INFORMATION USING A RELATIONAL DATABASE
PROCEDE ET SYSTEME DE GESTION D'INFORMATIONS A L'AIDE D'UNE BASE DE DONNEES
RELATIONNELLE

Patent Applicant/Assignee:

MATRIXONE INC,

Inventor(s):

TEWKSBARY David E,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9913419 A1 19990318

Application: WO 98US18767 19980909 (PCT/WO US9818767)

Priority Application: US 97926149 19970909

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD

MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ

VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH

CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW

ML MR NE SN TD TG

Main International Patent Class: G06F-017/30

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8673

English Abstract

A method and system for managing information by storing object data in a relational database. The method includes the steps of storing a separate data table in a relational database for each of a plurality of data types; associating a unique object identifier (OID) to an object; and defining the object using a plurality of data items. Each of the plurality of data items is one of the plurality of data types. After the object has been assigned an OID, the OID is associated with each of the plurality of data items defining the object. Each of the plurality of data items and the associated OID are stored in respective ones of the data tables according to data type.

French Abstract

La presente invention concerne un procede et un systeme de gestion d'informations consistant a stocker des donnees d'objet dans une base de donnees relationnelle. Ce procede consiste a stocker une table de donnees separee dans une base de donnees relationnelle pour chacun des differents type de donnees; a associer un identificateur d'objet unique (OID) a un objet; et a definir cet objet a l'aide de plusieurs elements de donnees. Chacun des differents elements de donnees correspond a l'un des differents types de donnees. Une fois un OID attribue a l'objet, cet OID est associe a chacun des differents elements de donnees definissant l'objet. Chaque element de donnees ainsi que l'OID qui leur est associe sont ensuite stockes dans les tables de donnees respectives en fonction du type de donnees.

Fulltext Availability:

Claims

Claim

... of the plurality of data types; and wherein each of the plurality of data items is stored in a respective one of the plurality of **data tables** in **association** with the **object** identifier.

8 The apparatus of claim 7, further comprising:

- 19 a processor 'in electrical communication with the first memory and the second memory, the processor...

12/5,K/57 (Item 29 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00334799 **Image available**

METHOD AND STRUCTURE FOR CLUSTERING DATABASE TABLES INTO CLASSES AND PRESENTING EACH CLASS AS AN E-R MODEL

PROCEDE ET STRUCTURE POUR GROUPE DES TABLEAUX DE BASES DE DONNEES EN

CLASSES ET PRESENTER CHAQUE CLASSE SOUS FORME DE MODELE ENTITE-RELATION

Patent Applicant/Assignee:

ST. COMPUTER SYSTEMS & SERVICES LIMITED,

- Inventor(s):

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CHENG Viktor Choong-Hung,

LIM Liat,

TAY Siew Choon,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9617311 A1 19960606

Application: WO 95IB997 19951113 (PCT/WO IB9500997)

Priority Application: US 94346510 19941129

Designated States: AL AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE

HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT

RO RU SD SE SG SI SK TJ TM TT UA UG UZ VN KE LS MW SD SZ UG AT BE CH DE

DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN

TD TG

Main International Patent Class: G06F-017/30

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8857

English Abstract

A reverse engineering technology is capable of automatically reversing from a physical data model comprising a relational or 4GL data model of an existing application database into a logical data model comprising classes and an entity-relationship (E-R) model of each class, the classes representing the different types of high-level objects that make up the application. This logical data model allows users to have a much clearer understanding of their application database thereby increasing their productivity and ease of maintenance of their existing applications. This is made possible by the method and structure of this invention first capturing the application semantics from the physical data model to provide a set of derived semantics. The derived semantics are then used to identify classes and derive the class definitions which are then used to derive the E-R model of each class. In addition, the derived semantics can be easily updated by the method and structure of this invention when the physical data model is changed.

French Abstract

Une technique de reingenierie permet la conversion automatique d'un modele de donnees physiques comprenant un modele de donnees relationnelles ou de L4G d'une base de donnees d'une application existante en un modele de donnees logiques comportant des classes et un modele entite-relation (E-R) de chaque classe, ces classes representant les differents types d'objets evolues qui constituent l'application. Ce modele de donnees logiques permet aux utilisateurs d'avoir une comprehension beaucoup plus claire de leurs bases de donnees, augmentant ainsi la productivite et la facilite de maintenance de leurs applications existantes. Le procede et la structure decrits dans la presente invention permettent tout d'abord de saisir la semantique de l'application a partir du modele de donnees physiques pour creer un ensemble semantique derive. Ce dernier est alors utilise pour identifier les classes et en derivier des definitions de classe qui sont ensuite utilisees pour derivier le modele E-R de chaque classe. En outre, l'ensemble semantique derive peut etre aisement actualise, grace au procede et a la structure decrits, lors de la modification du modele de donnees physiques.

Fulltext Availability:

Claims

Claim

... a plurality of database tables defined using a relational data model, comprising the steps of:
reading said relational data model;
deriving a set of binary **relationships** from said

relational data model;
identifying the entity type of each database table of
said relational data model;
31

19 A reverse engineering method as in claim 18 wherein
said tree of said class has a root comprising a database table...

12/5,K/61 (Item 33 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00257924 **Image available**

INFORMATION MODEL BASED ON A PHYSICAL SYSTEM

MODELE D'INFORMATION BASE SUR UN SYSTEME PHYSIQUE

Patent Applicant/Assignee:

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BREHM Bertram G,

Inventor(s):

NUTTALL David J H,

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Patent and Priority Information (Country, Number, Date):

Patent: WO 9406087 A1 19940317

Application: WO 93US8233 19930831 (PCT/WO US9308233)

Priority Application: US 92941366 19920901

Designated States: AU CA JP AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: G06F-015/40

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 43591

English Abstract

An information model based on a physical system, such as the physical equipment in a power system. An object-oriented information model provides a generic power system model that may be applied to any of several specific applications. In the invention, physical pieces of equipment are represented as objects with attributes that can be verified (primary data) and relations including connectivity, grouping, and location. The model handles all known configurations of power systems and is extensible to new configurations. Attribute input is supported from primary sources and is used to calculate data required by applications programs. A window-based graphical user interface uniquely simplifies operation of the database. Thus, the present invention provides a single, easy to use, source for all proprietary application databases at a utility.

French Abstract

Modele d'information base sur un systeme physique, tel que l'equipement physique d'un systeme d'alimentation electrique. Un modele d'information oriente sur les objets constitue un modele de systeme d'alimentation generique qui peut etre applique a toute application specifique. Dans l'invention, les pieces physiques d'equipement sont representees comme des objets avec attributs qui peuvent etre verifiees (donnee principale) et des relations comprenant la collectivite, le groupage et l'emplacement. Le modele couvre toutes les configurations connues de systemes d'alimentation et peut s'etendre a de nouvelles configurations. L'entree d'attributs s'effectue a partir des sources principales et est utilisee pour calculer des donnees requises par les programmes d'application. Une interface utilisateur graphique du type a fenetre simplifie de maniere unique le fonctionnement de la base de donnees. Ainsi, l'invention fournit une source unique et facile a utiliser pour toutes les bases de donnees d'application privee dans un service public.

Fulltext Availability:

Claims

Claim

- ... all objects below base types are collapsed into type tables, and all objects above base types are collapsed
- into object tables, using a common object **table** with surrogate keys; and
- externalizing and collapsing **object relationships** into **tables** , using typing to identify the type and relationship.

16/5,K/3 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00867291 **Image available**

DATABASE SYSTEM, PARTICULARLY FOR MULTIMEDIA OBJECTS

ENSEMBLE BASE DE DONNEES, UTILISEE, NOTAMMENT, POUR DES OBJETS MULTIMEDIAS

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WILLIS Gregory Kenneth, 18c Fairholme Road, West Kensington, London W14
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Legal Representative:

BUTLER Michael John (et al) (agent), Frank B. Dehn & Co., 179 Queen
Victoria Street, London EC4V 4EL, GB,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200201384 A2 20020103 (WO 0201384)

Application: WO 2001GB2857 20010627 (PCT/WO GB0102857)

Priority Application: GB 200015896 20000628

Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY
BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK
(utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model)
GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SK (utility
model) SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8563

English Abstract

A database system stores data relating to media objects for use in media presentations. The database system includes a primary metadata table containing metadata records and a supplementary metadata table containing supplementary metadata records, each supplementary metadata record being linked to a metadata record and specifying an additional attribute for an object type specified in the linked metadata record. The database further includes a primary content data table containing content data records and a supplementary content data table containing supplementary content data records, each supplementary content data record being linked to a supplementary metadata record and to a content data record. The content data record is linked to the metadata record as a specific instance of the object type defined in the metadata record, and the supplementary content data record contains a value for the additional attribute specified in the linked supplementary metadata data record which is applicable to the specific instance of the object type specified in the linked metadata record. An object type link table links together records in the primary metadata table, and a content data link table links together records in the primary content data table. An information retrieval system analyses the primary metadata table, the primary content data table, the supplementary metadata table, the supplementary data table, the object type link table and the content data link table and provides, for a selected instance of an object, information about that object's attributes and relationships with other objects in a hierarchical form.

French Abstract

Cet ensemble base de donnees stocke des donnees relatives a des objets medias utilisables pour des presentations de medias. Cet ensemble comporte une table principale de meta-donnees contenant des fiches de meta-donnees et une table supplementaire de meta-donnees contenant des fiches supplementaires de meta-donnees, chaque fiche supplementaire de meta-donnees etant liee a une fiche de meta-donnees et indiquant un attribut additionnel pour un type d'objet defini dans la fiche liee de meta-donnees. La base de donnees comporte egalement une table principale de donnees de contenu renfermant des fiches de donnees de contenu ainsi qu'une table supplementaire de donnees de contenu renfermant des fiches supplementaires de donnees de contenu, chaque fiche de donnees de contenu etant liee a une fiche supplementaire de meta-donnees et a une fiche de donnees de contenu. La fiche de donnees de contenu est liee a une fiche de meta-donnees en tant qu'instance specifique du type d'objet defini dans la fiche de meta-donnees et la fiche supplementaire de donnees de contenu contient une valeur relative a l'attribut additionnel indique dans la fiche supplementaire liee de meta-donnees, applicable a l'instance specifique du type d'objet defini dans la fiche liee de meta-donnees. Une table de lien de type d'objet lie des fiches se trouvant dans la table principale de meta-donnees et une table de lien de donnees de contenu lie des fiches se trouvant dans la table principale de donnees de contenu. Un systeme d'extraction d'informations, qui analyse la table principale de meta-donnees, la table principale de donnees de contenu, la table supplementaire de meta-donnees, la table supplementaire de donnees, la table de lien de type d'objet et la table de lien de donnees de contenu, fournit, pour une instance selectionnee d'un objet, une information relative aux attributs de l'objet et relative aux relations existant avec d'autres objets sous forme hierarchisee.

Legal Status (Type, Date, Text)

Publication 20020103 A2 Without international search report and to be republished upon receipt of that report.

Examination 20020321 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:

Claims

Claim

... respect of at least one media object entering into the second content table a record linked to the media object record in the first content **table** and to the **associated** object type **record** in the **second** metadata **table** and containing a data value for the additional attribute defined in the linked record in the second metadata table which applies to the media object...

...table, and provides, for a selected instance of an object, information about that object's 1 0 attributes and relationships with other objects in a **hierarchical** form.

23 A method as claimed in claim 22, including the step of accessing media objects defined in the database using the information retrieval system

...

16/5,K/4 (Item 4 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00809370 **Image available**

DYNAMIC RECURSIVE BUILD FOR MULTIDIMENSIONAL DATABASES AND METHODS AND APPARATUS THEREOF

CONSTRUCTION RECURSIVE DYNAMIQUE POUR BASES DE DONNEES MULTIDIMENSIONNELLES ET PROCEDES ET APPAREIL ASSOCIES

Patent Applicant/Assignee:

HYPERION SOLUTIONS CORPORATION, 1344 Crossman Avenue, Sunnyvale, CA 94089
, US, US (Residence), US (Nationality)

Inventor(s):

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US,

Legal Representative:

NAG Rupak (agent), Beyer Weaver & Thomas, LLP, P.O. Box 778, Berkeley, CA
94704-0778, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200142987 A1 20010614 (WO 0142987)
Application: WO 2000US33360 20001207 (PCT/WO US0033360)
Priority Application: US 99460536 19991213

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG
SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/30

International Patent Class: G06F-012/00; G06F-015/16

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 9108

English Abstract

A multidimensional integration system (300) for storing and retrieving data from a multidimensional database. The multidimensional integration system (300) accesses a source database (302) to obtain information needed to produce a multidimensional output (304). The multidimensional data integrator (306) accesses source database (302) and generates instructions necessary to produce a multidimensional output (304). The multidimensional data integrator (306) can use an Application Program Interface (308) to communicate with a multidimensional server (310) that ultimately produces the multidimensional output (304). The multidimensional data Integrator (306) can also interact with a multidimensional architect (312) and a multidimensional designer (314). The Multidimensional architect (312) is generally used to define a Meta-Model to solve a multitude of analytical problems related to a general problem category.

French Abstract

L'invention concerne un systeme (300) d'integration multidimensionnel concu pour stocker et extraire des donnees d'une base de donnees multidimensionnelle. Ledit systeme (300) accede a une base de donnees source (302) pour obtenir les informations necessaires pour produire une sortie multidimensionnelle (304). L'integrateur (306) de donnees multidimensionnel accede a la base de donnees source (302) et genere les instructions requises pour produire une sortie multidimensionnelle (304). Ledit integrateur (306) peut utiliser l'interface de programme d'application (308) pour communiquer avec un serveur multidimensionnel (310) qui, en fin de compte, produit la sortie multidimensionnelle (304). Ledit integrateur (306) peut egalement interagir avec un architecte (312) et un concepteur (314) multidimensionnels. L'architecte multidimensionnel (312) est generalement utilise pour definir un meta-modele pour resoudre une multitude de problemes analytiques se rapportant a une categorie de probleme d'ordre general.

Legal Status (Type, Date, Text)

Publication 20010614 A1 With international search report.

Publication 20010614 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Examination 20011025 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:
Claims

Claim

... and organizes data in a way that better reflects how a user would want to view the data than is possible in a spreadsheet or **relational** database file. Multidimensional databases are better suited generally to handle applications with large volumes of numeric data and that require calculations on numeric data, such...

...be stored and maintained in various data structures. To facilitate discussion, Fig. 1A is a simplified representation of an exemplary database table I 00. Data **table** I 00 can be used to store **information relating** to **different** products that are available for sale in a department store. As shown in Fig. 1A, data table I 00 can include a product ID, a...

...table I 00, other information such as the fact that product categories "jeans" and "t-shirts" are subcategories of "informal wear" can be ascertained. **Other information relating** to product categories can be maintained in another **table**, sales **table** I 10 of Fig. 1B. As ... solution organized and presented in a way that better reflects how a human would want to view the data. To elaborate, there is an implicit **hierarchical** (parent-child) relationship between the product categories of database table 100. For example, "informal wear" is a child of "clothing" and a parent of both "jeans" and "T-shirts". The **hierarchical** relationship present in table 1 00 is illustrated in Fig. 2A, where, for example, "Informal wear" is represented as a child of 6 4men's...

...for human perception and comprehension. This is evident from a quick comparison of Fig. 1A to Fig. 2A. As another example, Fig. 2B illustrates the **hierarchical** relationship present in Fig. 1C. Again, the graphical representation of Fig. 2B is a more desirable presentation to a user. As mentioned earlier, the...is created for the application. The Meta-outline includes at least one dimension of data. Furthermore, multidimensional output is generated based on at least one **hierarchical** relationship defined for the source database and relating to the application. The multidimensional output provides a solution to the problem related to the application. This...

...that this invention does not require normalization of data prior to creation of
6
multidimensional output. Thus, a source database can remain in its original **relational** format. Still another advantage of the invention is that it is cost effective and relatively simple implementations are possible. Other aspects and advantages of the...

...reference

Yi

numerals designate like structural elements, and in which:

Fig. 1A-C illustrate simplified database table of a source database. Fig. 2A-C illustrate **hierarchical** relationship for the database tables of Figs. 1A-C. Fig. 2D is a simplified representation of a ...communicate with a multidimensional server 3 1 0 that ultimately produces the multidimensional output, e.g., cube 304. Source database 302 is generally in a **relational** format, e.g., Oracle, DB2, Informix, or SQL server. However, it should be noted that source database 302 can be any historical data record. It...

...that are in a VSAM or ISAM format provided that a mechanism (e.g., a gateway) allows access to source data base 302 in a **relational** format. Source database 302 can include a number of tables where data is maintained. The multidimensional data Integrator 306 can also interact with a multidimensional...considered, namely, the dimensions of "products" and "topology."

hi order to create a "Meta-outline, for each dimension that needs to be idered, a **hierarchical** relation is identified. By way of example, for the dimension

consi 1 1

4 4products" the **hierarchical** relationship "product.category / product.subcategory" can be defined. This definition provides an abstraction that adequately defines the relationship between all the nodes in the **tree** illustrated in Fig. 2A. This abstract **hierarchical** relationship can be applied recursively to generate the **tree** illustrated in Fig. 2A. By way of example, starting at node "clothing" the **hierarchical** definition 4 4product.category / product.subcategory" can be applied to describe the relationship between the category of "clothing" and its subcategory "informal wear." The io **hierarchical** definition "product.category / product.subcategory" can again

16/5,K/7 (Item 7 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00555967 **Image available**

MULTI-DIMENSIONAL DATA MANAGEMENT SYSTEM

SYSTEME DE GESTION DE DONNEES MULTIDIMENSIONNELLES

Patent Applicant/Assignee:

ASPECT DEVELOPMENT,

Inventor(s):

ALTHOFF James,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200019340 A1 20000406 (WO 0019340)

Application: WO 99US22674 19990930 (PCT/WO US9922674)

Priority Application: US 98102463 19980930

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM

TR TT TZ UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY

KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Main International Patent Class: G06F-017/30

International Patent Class: G06F-003/14

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 4093

English Abstract

Multi-dimensional data is organized into classes which correspond to each of the dimensions that characterize the data. All relevant data is consolidated into a fact table (30), which is based upon information of interest. The data within this **table** is linked to the top level of each class that **corresponds** to a **different** dimension of **data**, and subclasses which exist within a given dimension of class automatically inherit the linked reference to the consolidated data. A user can thereby select search criteria (32) within particular classes that correspond to the dimensions of interest. This search criteria is then used to form a query which is applied to a **relational** database, to obtain the desired results.

French Abstract

On organise des donnees multidimensionnelles en categories correspondant a chacune des dimensions caracterisant ces donnees. On regroupe toutes les donnees pertinentes dans une table de faits (30) basee sur des informations recherchees. Les donnees contenues dans cette table sont reliees au niveau superieur de chaque categorie correspondant a une dimension differente de donnees, et les sous-categories existant a l'interieur d'une dimension donnee de categorie heritent automatiquement de la reference de liaison aux donnees regroupees. L'utilisateur peut, de

ce fait, selectionner des criteres de recherche (32) dans les categories correspondant aux dimensions recherchees. On utilise ensuite ces criteres de recherche afin de formuler une demande qu'on applique a une base de donnees relationnelles afin d'obtenir les resultats souhaitees.

English Abstract

...that characterize the data. All relevant data is consolidated into a fact table (30), which is based upon information of interest. The data within this **table** is linked to the top level of each class that **corresponds** to a **different** dimension of **data**, and subclasses which exist within a given dimension of class automatically inherit the linked reference to the consolidated data. A user can thereby select search...

...within particular classes that correspond to the dimensions of interest. This search criteria is then used to form a query which is applied to a **relational** database, to obtain the desired results.

20/5;K/2. (Item 2 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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01160569

Hierarchical structure generating method and apparatus generating
hierarchical structure display table based on parent - child
relationship table

Verfahren zum Erstellen einer hierarchischen Struktur und Vorrichtung zum
Erstellen eines Präsentationstisches einer hierarchischen Struktur auf
Basis von einem Kind-Elter-Relationstisch

Procede de generation d' une structure hierarchique et appareil pour
generer une table de presentation d' une structure hierarchique basee
sur une table de relations parent -enfant

PATENT ASSIGNEE:

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INVENTOR:

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LEGAL REPRESENTATIVE:

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Baronetzky Westendorp Patentanwalte Rumfordstrasse 7, 80469 Munchen,
(DE)

PATENT (CC, No, Kind, Date): EP 1011055 A2 000621 (Basic)

APPLICATION (CC, No, Date): EP 99124771 991213;

PRIORITY (CC, No, Date): JP 98361607 981218

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT EP 1011055 A2

A hierarchical structure generating method and apparatus used in a
communication system (for example, consisting of a parent station B and N
child stations (relay station R or terminal station T) is disclosed, by
which the whole hierarchical structure can be efficiently generated and
displayed from the top level based on a **parent - child relationship
table** between the constituent stations. The apparatus comprises a
section (100) for referring to a **parent - child relationship table**
(10) indicating each **parent - child relationship** between the
elements, and generating and outputting a **hierarchical** structure
display table (11) which includes at least information for determining
whether each element is a parent element; information for determining
whether each parent element is a top parent element; information for
determining a child element of each parent element; and information for
determining another child element having the same **hierarchical** level of
each child element, so as to analyze the **hierarchical** structure; and a
section (200) for generating and displaying the **hierarchical** structure
of the elements by referring to the **hierarchical** structure display
table.

ABSTRACT WORD COUNT: 172

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 000621 A2 Published application without search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200025	339
SPEC A	(English)	200025	4225
Total word count - document A			4564
Total word count - document B			0
Total word count - documents A + B			4564

Hierarchical structure generating method and apparatus generating
hierarchical structure display table based on parent - child
relationship table

Procède de generation d' une structure hierarchique et appareil pour
generer une table de presentation d' une structure hierarchique basee
sur une table de relations parent -enfant

...ABSTRACT or terminal station T) is disclosed, by which the whole hierarchical structure can be efficiently generated and displayed from the top level based on a **parent - child relationship table** between the constituent stations. The apparatus comprises a section (100) for referring to a **parent - child relationship table** (10) indicating each **parent - child relationship** between the elements, and generating and outputting a **hierarchical structure display table** (11) which includes at least information for determining whether each element is a parent element; information for determining whether each parent element is a top parent element; information for determining a child element of each parent element; and information for determining another child element having the same **hierarchical** level of each child element, so as to analyze the **hierarchical** structure; and a section (200) for generating and displaying the **hierarchical** structure of the elements by referring to the **hierarchical** structure display table.

20/5,K/4 (Item 4 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00678279

Computer method and storage structure for storing and accessing multidimensional data.

Rechenverfahren und Speicherstruktur zur Speicherung und zum Zugriffen auf mehrdimensionale Daten.

Procede informatique et structure de stockage pour stocker et acceder a des donnees multidimensionnelles.

PATENT ASSIGNEE:

MICROSOFT CORPORATION, (749861), One Microsoft Way, Redmond, Washington 98052-6399, (US), (applicant designated states: DE;FR;GB)

INVENTOR:

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Patentanwalte Grunecker, Kinkeldey, Stockmair & Partner (100721), Maximilianstrasse 58, D-80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 650131 A1 950426 (Basic)

APPLICATION (CC, No, Date): EP 94116500 941019;

PRIORITY (CC, No, Date): US 139916 931020

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-017/30;

ABSTRACT EP 650131 A1

A computer method and storage structure for storing and accessing multidimensional data is provided. A tree manager provided by the present invention stores data such as pointers, variable length data records, other B-trees, and directories, in a Multidimensional B-tree (MDB-tree). An MDB-tree has an imbedded "parent-child" structure which allows subtrees to be stored within nodes. The subtrees contain subnodes, which, in turn, may contain subtrees. The nodes are indexed by a primary key value while the subnodes in a subtree are indexed by secondary key values. Nodes of a MDB-tree contain a key value table, a subnode table, and a data area. When the tree manager attempts to store a unit of data on a page and the unit of data is too large for the page, the tree manager attempts to split a node currently stored on the page (or the unit of data being inserted) into a subnode and a subtree. The subtree is then stored on a new page. If the unit of data cannot be split into a subnode and a subtree, then one or more of the node currently stored on the page are moved to a new page. (see image in original document)

ABSTRACT WORD COUNT: 201

LEGAL STATUS (Type, Pub Date, Kind, Text):

Refusal: 010912 A1 Date European patent application was refused:
20010315
Application: 950426 A1 Published application (A1with Search Report
;A2without Search Report)
Examination: 951213 A1 Date of filing of request for examination:
951018
Examination: 990203 A1 Date of despatch of first examination report:
981217

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB95	2417
SPEC A	(English)	EPAB95	6121
Total word count - document A			8538
Total word count - document B			0
Total word count - documents A + B			8538

...CLAIMS on a storage device, the computer system comprising:
a node storage mechanism for storing a node entry on the storage
device as part of a **tree** data structure that indexes a group of
data, the node entry having a first **node** identifier **associated**
with it and comprising a first key value **table** for storing key
values, a first subnode table for storing node identifiers of
subnodes, and a first data area for storing units of data; and...

...computer system of claim 12, the node entry having a parent node entry
in the tree data structure, the parent node entry having a second
node identifier **associated** with it and comprising a second key
value **table** for storing key values, a second subnode table for
storing node identifiers of subnodes, and a second data area for
storing units of data, the...

20/5,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00590562

Data processing apparatus for carrying out process by combining objects.
Datenverarbeitungsgerat zum Ausfuehren von Prozessen durch Kombination von
Objekten.

Appareil de traitement de donnees pour la conduite de procede par
combinaison d'objets.

PATENT ASSIGNEE:

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Kanagawa 211, (JP), (applicant designated states: DE;FR;GB)

INVENTOR:

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Adachi, Takeshi c/o Fujitsu Network Eng. Ltd., 3-2-1, Sakato, Takatsu-ku,
Kawasaki-shi Kanagawa 213, (JP)

LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 585813 A2 940309 (Basic)
EP 585813 A3 940323

APPLICATION (CC, No, Date): EP 93113655 930826;

PRIORITY (CC, No, Date): JP 92236641 920904

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/40;

CITED REFERENCES (EP A):

SIGOA BULLETIN vol. 5, no. 1-2 , 1984 page 20 M. AHLSEN ET AL : 'An Architecture for Object Management in OIS'
 6TH INTERNATIONAL CONFERENCE ON DATA ENGINEERING 5 February 1990 , LOS ANGELES, US pages 11 - 19 S. HONG ET AL : 'Using a Meta Model to Represent Object-Oriented Data Models'
 EDN ELECTRICAL DESIGN NEWS vol. 37, no. 16 , 6 August 1992 , NEWTON, MASSACHUSETTS US pages 78 - 90 C. SMALL ET AL : 'How C++ works'
 14TH INTERNATIONAL COMPUTER SOFTWARE & APPLICATIONS CONFERENCE 31 October 1990 , CHICAGO, US pages 221 - 230 P. TAN ET AL : 'The Conceptual Design of OSEA: An Object-oriented Semantic Data Model';

ABSTRACT EP 585813 A2

A data processing apparatus executes a desired process by naming a single processing unit and/or a combination of single processing units as an object and combining such objects. The data processing unit includes a parts attribute file (205) storing the object as an object part (206) using entity data forming the object and meta data describing nature of the object, and an object management unit (220) communicating with the object part (206) in the parts attribute file (205) to execute the desired process. The object part (206) is specified within the data processing apparatus by an object command (201). The object command (201) is represented by a code in which a surrogate and an object identification are coupled. The surrogate at least describes hierarchical information of hierarchical classes in which a description related to the meta data are compressed, and the object identification typically describes the instances corresponding to the entity data. The object part (206) is specified within the data processing apparatus by the object command (201), and one or a plurality of object parts are coupled to execute the desired process. (see image in original document)

ABSTRACT WORD COUNT: 190

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 940309 A2 Published application (A1with Search Report ;A2without Search Report)
 Search Report: 940323 A3 Separate publication of the European or International search report
 Examination: 940727 A2 Date of filing of request for examination: 940527
 Withdrawal: 970326 A2 Date on which the European patent application was withdrawn: 970129

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF2	579
SPEC A	(English)	EPABF2	6126
Total word count - document A			6705
Total word count - document B			0
Total word count - documents A + B			6705

...CLAIMS retrieved from the first corresponding table using the code.

6. The data processing apparatus as claimed in claim 5, characterized in that:

a second corresponding **table** is formed using the class units retrieved from the first **corresponding table** ; and

a **parent** class and a child class are obtained under a "part-of" **hierarchy** based on a result which is obtained by retrieving the second corresponding table. ...

20/5,K/8 (Item 8 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00537302

System for and method of generating a data structure.

Gerat fur und Verfahren zum Herstellen von Datenstrukturen.

Dispositif et procede pour generer des structures de donnees.

PATENT ASSIGNEE:

International Business Machines Corporation, (200120), Old Orchard Road,
Armonk, N.Y. 10504, (US), (applicant designated states: DE;FR;GB)

INVENTOR:

Amano, Tomio, Shatoh Kakinoki 202 goh, 1-2-8 Kamiigusa suginami-ku,
Tokyo-to, (JP)

Takahashi, Hiroyasu, Kamoshida Higashi Danchi, 7-toh 303goh 533
Kamoshida-cho, Midori-ku, Yokohama-shi, Kanagawa-ken, (JP)

LEGAL REPRESENTATIVE:

Burt, Roger James, Dr. (52152), IBM United Kingdom Limited Intellectual
Property Department Hursley Park, Winchester Hampshire SO21 2JN, (GB)

PATENT (CC, No, Kind, Date): EP 501753 A2 920902 (Basic) ~~EP 501753 A3 931201~~
EP 501753 A3 931201

APPLICATION (CC, No, Date): EP 92301578 920225;

PRIORITY (CC, No, Date): JP 9155543 910228

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/419; G06F-015/403;

CITED REFERENCES (EP A):

IEEE PROCEEDINGS OF THE ANNUAL SYMPOSIUM ON COMPUTER ARCHITECTURE vol.
12, 19 June 1985, BOSTON. MASSACHUSETTS, USA pages 91 - 98 SOHI G.S. ET
AL. 'AN EFFICIENT LISP-EXECUTION ARCHITECTURE WITH A NEW REPRESENTATION
FOR LIST STRUCTURES'

PATENT ABSTRACTS OF JAPAN vol. 011, no. 248 (P-604)13 August 1987

INTERNATIONAL JOURNAL OF PATTERN RECOGNITION AND ARTIFICIAL INTELIGENCE
vol. 2, no. 4, 1988, pages 641 - 655 DENGEL A., BARTH G. 'HIGH LEVEL
DOCUMENT ANALYSIS GUIDED BY GEOMETRIC ASPECS';

ABSTRACT EP 501753 A2

A user describes a **tree** or a set of **trees** in a table, and a system
generates a data structure corresponding to the **tree** or the set of
trees on memory in accordance with the description. The table has one or
more columns in which for each node, attributes given to the node are
entered. The system interprets the table; allocates a memory area to each
of the nodes, sets data on the attributes given to the node; and
generates pointer data indicating the connections of the memory areas.
The **hierarchy** of the nodes and the sequence of nodes linked immediately
below the same node are determined on the basis of the sequence of rows
corresponding to the **nodes** and levels assigned to the nodes in the
table. (see image in original document)

ABSTRACT WORD COUNT: 135

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 920902 A2 Published application (Alwith Search Report
;A2without Search Report)

Examination: 930203 A2 Date of filing of request for examination:
921210

Change: 931006 A2 Representative (change)

Search Report: 931201 A3 Separate publication of the European or
International search report

Change: 931201 A2 Obligatory supplementary classification
(change)

Withdrawal: 970226 A2 Date on which the European patent application
was withdrawn: 961224

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	391
SPEC A	(English)	EPABF1	6797
Total word count - document A			7188
Total word count - document B			0
Total word count - documents A + B			7188

...ABSTRACT A2

A user describes a **tree** or a set of **trees** in a table, and a system
generates a data structure corresponding to the **tree** or the set of
trees on memory in accordance with the description. The table has one or
more columns in which for each node, attributes given to the node are...

...each of the nodes, sets data on the attributes given to the node; and
generates pointer data indicating the connections of the memory areas.

The **hierarchy** of the nodes and the sequence of nodes linked immediately below the same node are determined on the basis of the sequence of rows **corresponding** to the **nodes** and levels assigned to the nodes in the **table** . (see image in original document)

20/5,K/9 (Item 9 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00484478

Dense aggregative hierarchical techniques for data analysis.

Zusammengedrangte verbindende hierarchische Techniken für die Datenanalyse.

Techniques hierarchiques compactes d'agregation pour l'analyse de donnees.

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 460970 A2 911211 (Basic)
EP 460970 A3 940427

APPLICATION (CC, No, Date): EP 91305171 910607;

PRIORITY (CC, No, Date): US 535796 900608

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/70; G06F-015/68; G06F-015/66;
G06F-015/80;

CITED REFERENCES (EP A):

PROCEEDINGS OF THE 1987 IEEE INTERNATIONAL CONFERENCE ON SYSTEMS, MAN, AND
CYBERNETICS, OCTOBER 20-23, 1987, ALEXANDRIA (US) ; IEEE, NEW YORK (US)
pages 1011 - 1014 XP11639 G.A. BARAGHIMIAN ET AL. 'Hexagonal
decomposition : a data structure for planar image tessellation'
IBM TECHNICAL DISCLOSURE BULLETIN. vol. 32, no. 8B, January 1990, NEW
YORK US 'Parallel local operator engine and fast P300';

ABSTRACT EP 460970 A2

A body of data (60) is operated upon **hierarchically** in such a way that, at one or more levels (62, 64) of the **hierarchy**, the number of aggregative data items produced is not substantially less than the number produced at the preceding level. The body of data can be an image, so that each aggregative data item indicates an attribute of a distinct image region. Such attributes include presence of a single connected component or properties of a component such as width, orientation and curvature. A class of abstract computation structures, called exhaustive **hierarchical** structures, is introduced in which such dense or exhaustive **hierarchical** aggregative data analysis processes can be embedded. The embedding of exhaustive **hierarchical** analysis in a computation structure of this class is analogous, and in some implementations similar in processing efficiency, to the embedding of conventional **hierarchical** aggregative data analysis processes in **tree** structures. The exhaustive **hierarchical** embedding introduced analyzes extensively overlapping regions in a manner that places minimum demands on the number of communication links, memory resources, and computing power of the individual processing units. Specifically, the embedding scheme is a general scheme for mapping locations in an array into nodes at two adjacent levels of a binary exhaustive **hierarchical** structure. The scheme establishes positional relations in the **array** that **correspond** to **parent - child relations** at a given level in the exhaustive **hierarchical** computing structure; these positional relations are uniform power-of-two offsets in each array dimension at a given **hierarchical** level. Consequently, this exhaustive **hierarchical** analysis can be implemented efficiently using conventional communication techniques, including hypercube and grid techniques, on a massively parallel processor. To minimize memory requirements, **hierarchical** results at each location can be encoded across all levels. (see image in original document)

ABSTRACT WORD COUNT: 289

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 911211 A2 Published application (Alwith Search Report
;A2without Search Report)
Change: 940420 A2 Obligatory supplementary classification
(change)
Search Report: 940427 A3 Separate publication of the European or
International search report
Examination: 950322 A2 Date of filing of request for examination:
950123
Change: 961009 A2 Representative (change)
Examination: 970910 A2 Date of despatch of first examination report:
970727
Withdrawal: 980527 A2 Date on which the European patent application
was withdrawn: 980406

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	2989
SPEC A	(English)	EPABF1	26989
Total word count - document A			29978
Total word count - document B			0
Total word count - documents A + B			29978

...ABSTRACT A2

A body of data (60) is operated upon **hierarchically** in such a way that, at one or more levels (62, 64) of the **hierarchy**, the number of aggregative data items produced is not substantially less than the number produced at the preceding level. The body of data can be...

...presence of a single connected component or properties of a component such as width, orientation and curvature. A class of abstract computation structures, called exhaustive **hierarchical** structures, is introduced in which such dense or exhaustive **hierarchical** aggregative data analysis processes can be embedded. The embedding of exhaustive **hierarchical** analysis in a computation structure of this class is analogous, and in some implementations similar in processing efficiency, to the embedding of conventional **hierarchical** aggregative data analysis processes in **tree** structures. The exhaustive **hierarchical** embedding introduced analyzes extensively overlapping regions in a manner that places minimum demands on the number of communication links, memory resources, and computing power of...

...units. Specifically, the embedding scheme is a general scheme for mapping locations in an array into nodes at two adjacent levels of a binary exhaustive **hierarchical** structure. The scheme establishes positional relations in the **array** that **correspond** to **parent - child relations** at a given level in the exhaustive **hierarchical** computing structure; these positional relations are uniform power-of-two offsets in each array dimension at a given **hierarchical** level. Consequently, this exhaustive **hierarchical** analysis can be implemented efficiently using conventional communication techniques, including hypercube and grid techniques, on a massively parallel processor. To minimize memory requirements, **hierarchical** results at each location can be encoded across all levels. (see image in original document)

20/5,K/28 (Item 17 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00743934 **Image available**

METHOD AND APPARATUS FOR GENERATING AN ALL-IN-ONE FAMILY TREE

PROCEDE ET APPAREIL POUR GENERER UN ARBRE GENEALOGIQUE TOUT EN UN

Patent Applicant/Assignee:

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Houston, TX 77057-2198, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200057303 A1 20000928 (WO 0057303)

Application: WO 2000US6331 20000309 (PCT/WO US0006331)

Priority Application: US 99273606 19990322

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ

TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/30

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 10328

English Abstract

A method for organizing a conventional family tree database file (40 and 50-56) to allow a user to simultaneously display all ancestors and descendants of the file. A family tree (40 and 50-56) is established by traversing the file multiple times to associate all parents (50), spouses, and children of each individual with the individual's respective parents (50), spouses, and children named in the file.

French Abstract

L'invention porte sur un procede d'organisation d'un fichier (40 et 50-56) traditionnel de base de donnees d'arbre genealogique, ce procede permettant a un utilisateur d'afficher simultanement tous les ancetres et les descendants du fichier. On etablit un arbre genealogique en parcourant le fichier plusieurs fois pour associer tous les parents (50), epoux et enfants de chaque individu aux parents (50), epoux et enfants respectifs de l'individu, designes dans le fichier.

Legal Status (Type, Date, Text)

Publication 20000928 A1 With international search report.

Publication 20000928 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Examination 20001123 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:

Claims

Claim

... matrix from a database file containing a plurality of nodes wherein each node contains family information about and individual, said method comprising:
(a) selecting a **node** in said database file **corresponding** to a primary individual; (b) creating a **tree matrix node corresponding** to said primary individual; (c) identifying any **nodes** in said database file **corresponding to parents** of said primary individual;
(d) for each node identified in step (c), creating a **tree matrix node corresponding** to the individual **corresponding** to said identified **node** ;
(e) defining in said **tree matrix** a parental **association** between each **tree matrix node** created in step (d) and said **tree matrix node corresponding**

to said
 primary individual;
 (f) identifying any **nodes** in said database file **corresponding** to
 spouses of said
 1 5 primary individual;
 (g) for each node identified in step (f), creating a **tree matrix**
node corresponding
 to the individual **corresponding** to said identified **node** ;
 (h) defining in said **tree matrix** a spousal **association** between each
tree matrix
node created in step (g) and said **tree matrix node corresponding**
 to said
 primary individual;
 (i) identifying any **nodes** in said database file **corresponding** to
 children of said
 primary individual;
 for each node identified in step (i), creating a **tree matrix node**
corresponding
 to the individual **corresponding** to said identified **node** ;
 (k) defining in said **tree matrix** an offspring **association** between
 each **tree matrix**
node created in step (i) and said **tree matrix node corresponding**
 to said
 primary individual; and
 (l) successively selecting each remaining node in said database file to
 be said primary individual and repeating steps (b) through...

...RULE 26)

 BuildMatrix
 (individual)
 44
 Create matrix node
 forID
 46
 n tr Mark ID node of DI3 file as being
 atrie? yes duplicated in **tree matrix**.
 47 49
 No
 Mark ID node of DI3 file as being
 in **tree matrix**.
 48
 Done
 FIGs Q
 SUBSTITUTE SHEET (RULE 26)

GetParentsinfo
 (individual)
 50
 For each set of parents
 51
 Get parent's marriages from DB file...

...fields searched Electronic data base consulted during the international
 search (name of data base and, where practicable, search terms used)
 WEST, EAST
 Search terms: **nodes**, **hierarchical**, **hierarchy**, **tree**, expand,
 database record, database file
 C. DOCUMENTS CONSIDERED TO BE RELEVANT
 Category* Citation of document, with indication, where appropriate, of
 the relevant passages Relevant to...

20/5,K/29 (Item 18 from file: 349)
 DIALOG(R)File 349:PCT FULLTEXT
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00559177 **Image available**

COMPRESSION OF NODES IN A TRIE STRUCTURE
COMPRESSION DE NOEUDS DANS UNE STRUCTURE ARBORESCENTE

Patent Applicant/Assignee:

NOKIA NETWORKS OY,
IIVONEN Jukka-Pekka,
TIKKANEN Matti,

Inventor(s):

IIVONEN Jukka-Pekka,
TIKKANEN Matti,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200022550 A1 20000420 (WO 0022550)

Application: WO 99FI717 19990902 (PCT/WO FI9900717)

Priority Application: FI 982095 19980929

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM

TR TT UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG

KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF

BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Main International Patent Class: G06F-017/30

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8244

English Abstract

The invention relates to a method for implementing a functional memory and to a memory arrangement. The memory is implemented as a **directory structure** comprising a **tree**-shaped **hierarchy** having nodes at several different **hierarchy** levels, wherein an individual node can be (i) a **trie node** **associated** with a logical **table** wherein an individual element may contain a pointer pointing to a lower node in the **hierarchy**, or (ii) a bucket containing at least one element so that the type of an individual element in the bucket is selected from a group including e.g. a data unit or a pointer to a stored data unit. To optimize the performance of the functional trie structure, the trie nodes are implemented as quad nodes of four elements, and in at least part of the **directory structure** groups of successive quad nodes are replaced by compressed nodes in such a way that (a) an individual group comprising a given quad node and its child nodes is replaced by a node whose logical table has 16 elements, and (b) a compressed node known per se is formed from said node of 16 elements by physically storing in the node only non-nil pointers and in addition a bit pattern on the basis of which the physical storage location in the node, corresponding to the search word, can be determined. The invention also relates to a structure in which no buckets are used.

French Abstract

L'invention concerne un procede de mise en oeuvre d'une memoire fonctionnelle et l'agencement d'une memoire. La memoire est mise en oeuvre sous la forme de structure de repertoire arborescente comportant des noeuds sur plusieurs niveaux hierarchiques differents, chaque noeud pouvant etre (i) un noeud d'arborescence associe a une table logique dans laquelle un element peut contenir un pointeur pointant vers un noeud de niveau inferieur dans la hierarchie, ou (ii) une case contenant au moins un element de maniere a selectionner le type d'element individuel dans ladite case a partir d'un groupe comprenant, par exemple, une unite de donnees ou un pointeur vers une unite de donnees en memoire. Afin d'optimiser la performance de la structure arborescente fonctionnelle, les noeuds d'arborescence sont mis en oeuvre sous la forme de noeuds quadruples de quatre elements. Dans au moins une partie de la structure de repertoire, des groupes de noeuds quadruples successifs sont remplaces par des noeuds compressees de facon (a) a remplacer chacun des groupes constitues d'un noeud quadruple donne et de ses noeuds enfants par un noeud dont la table logique a 16 elements, et (b) a former un noeud compresse a partir dudit noeud de 16 elements par mise en memoire physique dans le noeud des pointeurs non nuls seulement, et, en outre, un

profil binaire sur la base duquel on peut determiner le site de mise en memoire physique dans le noeud, correspondant au mot de recherche.
L'invention concerne egalement une structure dans laquelle aucune case n'est utilisee.

Fulltext Availability:
Claims

English Abstract

The invention relates to a method for implementing a functional memory and to a memory arrangement. The memory is implemented as a **directory structure** comprising a **tree**-shaped **hierarchy** having nodes at several different **hierarchy** levels, wherein an individual node can be (i) a **trie node** **associated** with a logical **table** wherein an individual element may contain a pointer pointing to a lower node in the **hierarchy**, or (ii) a bucket containing at least one element so that the type of an individual element in the bucket is selected from a group...

...the performance of the functional trie structure, the trie nodes are implemented as quad nodes of four elements, and in at least part of the **directory structure** groups of successive quad nodes are replaced by compressed nodes in such a way that (a) an individual group comprising a given quad node and...

Claim

... implemented as a directory structure comprising a tree-shaped hierarchy having nodes at several different levels, wherein an individual node can be (i) a **trie node** **associated** with a logical **table** wherein an individual element may contain a pointer pointing to a lower node in the **tree** shaped **hierarchy** and wherein an individual element may also be empty, in which case the content of the element corresponds to a nil pointer, the number of...

...individual element in the bucket is selected from a group including a data unit, a pointer to a stored data unit, a pointer to another **directory structure** and another **directory structure**,
- address computation performed in the **directory structure** comprises the steps of
- (a) selecting in the node at the uppermost level of the **tree**-shaped **hierarchy** a given number of bits from the bit string formed by the search keys employed, forming from the selected bits a search word with which...

...grandchild nodes of said given node, characterized by
implementing trie nodes as quad nodes of four elements, and replacing in at least part of the **directory structure** groups of successive nodes by compressed nodes in such a way that
(a) an individual group comprising a given quad node and its child nodes...

...as a directory structure comprising a tree-shaped hierarchy having nodes at several different hierarchy levels, wherein an individual node can be (i) an internal **node** **associated** with a logical **table** wherein an individual element may contain a pointer pointing to a lower node in the **tree**-shaped **hierarchy** and wherein an individual element may also be empty, in which case the content of the **node** **corresponds** to a nil pointer, the number of elements in the **table** corresponding to a power of two, or (ii) a leaf containing an element the type of which is selected from a group including a pointer to a stored data unit, a data unit, and a pointer to a node in another **directory structure**,
- address computation performed in the **directory structure** comprises the steps of
- (a) selecting in the node at the uppermost level of the **tree**-shaped

hierarchy a given number of bits from the bit string formed by the search keys employed, forming from the selected bits a search word with which... grandchild nodes of said given node, characterized by implementing internal nodes as quad nodes having four elements, and replacing in at least part of the **directory structure** groups of successive nodes by compressed nodes in such a way that
- an individual group comprising a given quad node and its child nodes is...

...case, said **directory structure** comprising a tree-shaped hierarchy having nodes at several different hierarchy levels, wherein an individual node can be (i) a **trie node associated** with a logical **table** wherein an individual element may contain a pointer pointing to a lower node in the **tree** shaped **hierarchy** and wherein an individual element may also be empty, in which case the content of the element corresponds to a nil pointer, the number of...

...the bucket is selected from a group including a data unit, a pointer to a stored data unit, a pointer to a node in another **directory structure** and another **directory structure**, characterized in that some of the trie nodes are quad nodes whose logical table has four 1 0 elements and some hierarchy having nodes at several different hierarchy levels, wherein an individual node can be (i) an internal **node associated** with a logical **table** wherein an individual element may contain a pointer pointing to a lower node in the **tree**-shaped **hierarchy** and wherein an individual element may also be empty, in which case the content of the element corresponds to a nil pointer, the number of...

...one element of a type selected from a group including a pointer to a stored data unit and a pointer to a node in another **directory structure**, characterized in that some of the trie nodes are quad nodes whose logical table has...

20/5,K/33 (Item 22 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00433548 **Image available**

SYSTEM AND METHOD FOR TREE ORDERED CODING OF SPARSE DATA SETS
SYSTEME ET PROCEDE DE CODAGE ARBORESCENT D'ENSEMBLES DE DONNEES EPARS

Patent Applicant/Assignee:

TERALOGIC INC,

Inventor(s):

CHUI Charles K,

YI Rongxiang,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9824012 A1 19980604

Application: WO 97US20327 19971110 (PCT/WO US9720327)

Priority Application: US 96758589 19961127

Designated States: CN IL JP KR RU AT BE CH DE DK ES FI FR GB GR IE IT LU MC
NL PT SE

Main International Patent Class: G05B-023/02

International Patent Class: B23K-27:00; G06F-07:38; G06F-17:30; G06F-11:08;
G06F-11:10; G06F-12:06; G06F-11:34; G06F-15:336; G01S-09:56; H04B-01:10;
G01V-01:28; H04N-01:41; H04N-01:46; H04N-01:419; G01R-23:165; G10L-07:02;
G06G-07:00; G06T-01:00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8824

English Abstract

A data encoder and method utilizes a node list for storing a list of nodes (342) in the data array to be processed, a branch list (344) for storing a list of **tree** branches in the data array to be processed and a set list (346) for storing a list of data sets. The method begins by initially storing in the node list node identifiers (i, j) representing a predefined set of **nodes** in the data **array**, **corresponding** to coefficients (LL, HL1, LH1, HH1) generated by a last iteration of a data decomposition procedure. Also, it initially stores in the branch list branch identifiers (i, j, I) representing **tree** branches corresponding to a predefined subset of the nodes initially listed in the node list (342). Each such **tree** branch has an associated root node and a branch depth value indicating how many node layers intervene between the root node and the nodes of the **tree** branch closest to the root node. The set list (346) is initially empty, and a parameter (374) called the LayerLimit value is also initialized. For successively smaller values of m, where m is a positive integer, a set of data encoding steps are repeatedly performed so as to process all nodes, branches and sts in the lists. A magnitude flag (396) is output for each node, branch and set to indicate whether or not it is or contains a node whose absolute value is equal to or larger than 2^{m-1} , and for each node, branch and set that is equal to or larger than 2^{m-1} further processing is performed.

French Abstract

Procede et codeur de donnees utilisant une liste de noeuds en vue de stocker cette liste de noeuds (342) dans l'ensemble de donnees a traiter, une liste de branches (344) en vue de stocker cette liste de structure arborescentes dans l'ensemble de donnees a traiter et une liste d'ensembles (346) en vue de stocker une liste d'ensembles de donnees. Le procede consiste a stocker initialement, dans la liste de noeuds, des identificateurs (i, j) de noeuds representant un ensemble predefini de noeuds dans l'ensemble de donnees, et correspondant a des coefficients (LL, HL1, LH1, HH1) generes par une derniere iteration d'une procedure de decomposition de donnees, et egalement a stocker initialement dans la liste de branches, les identificateurs (i, j, I) de branches representant des structures arborescentes correspondant a un sous-ensemble predefini de noeuds prealablement repertories dans la liste (342) de noeuds. Chacune de ces structures arborescentes possede un noeud superieur associe et une valeur de profondeur de branche indiquant le nombre de couches de noeuds interferant entre le noeud superieur et les noeuds de la structure arborescente la plus proche du noeud superieur. La liste d'ensembles (346) est initialement vide et un parametre (374) appele valeur de la "limite de la couche" est egalement initialise. Pour des valeurs successivement plus petites de m, lorsque m est un nombre entier positif, un ensemble d'etapes de codage de donnees est realise de maniere iterative de facon a traiter tous les noeuds, branches et ensembles des listes. Un indicateur d'amplitude (396) est genere pour chaque noeud, branche et ensemble de facon a indiquer s'il y a ou non un noeud dont la valeur absolue est egale ou superieure a 2^{m-1} , et si pour chaque noeud, branche et ensemble qui est egal ou superieur a 2^{m-1} , un autre traitement est realise.

Fulltext Availability:

Claims

English Abstract

...node list for storing a list of nodes (342) in the data array to be processed, a branch list (344) for storing a list of **tree** branches in the data array to be processed and a set list (346) for storing a list of data sets. The method begins by initially storing in the node list node identifiers (i, j) representing a predefined set of **nodes** in the data **array**, **corresponding** to coefficients (LL, HL1, LH1, HH1) generated by a last iteration of a data decomposition procedure. Also, it initially stores in the branch list branch identifiers (i, j, I) representing **tree**

branches corresponding to a predefined subset of the nodes initially listed in the node list (342). Each such **tree** branch has an associated root node and a branch depth value indicating how many node layers intervene between the root node and the nodes of the **tree** branch closest to the root node. The set list (346) is initially empty, and a parameter (374) called the LayerLimit value is also initialized. For...

Claim

... storing a list of data sets;
initially storing in said node list data structure, in a predefined order, node identifiers representing a predefined set of **nodes** in said specified data **array corresponding** to coefficients generated by a last iteration of a data decomposition procedure;
initially storing in the branch list data structure, in a predefined order, branch identifiers representing **tree** branches corresponding to a predefined subset of the nodes initially listed in said node list data structure; each **tree** branch having an associated root node and a branch depth value indicating how many node layers intervene between said root node and the nodes of said **tree** branch closest to said root node;
initially storing in the set list data structure no set identifiers; establishing a Layerl-limit value;
for successively smaller...storing a list of data sets;
initially storing in said node list data structure, in a predefined order, node identifiers representing a predefined set of **nodes** in said specified data **array corresponding** to coefficients generated by a last iteration of a data decomposition procedure;
initially storing in the branch list data structure, in a predefined order, branch identifiers representing **tree** branches corresponding to a predefined subset of the nodes initially listed in said node list data structure; each **tree** branch having an associated root node and a branch depth value indicating how many node layers intervene between said root node and the nodes of said **tree** branch closest to said root node;
initially storing in the set list data structure no set identifiers; inputting a Layerl-limit value from the encoded...
...positive, interpreting the subset of read data bits to reconstruct said identified node's value and outputting said reconstructed data value to said reconstructed data **array** at a position **corresponding** to said identified **node** ;
(C) processing the subset of read data bits representing information about each identified branch listed in said branch list data structure to determine whether said...

File 8: Ei Compendex(R) 1970-2002/Oct W2
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 (c) 2002 The Gale Group
 File 603: Newspaper Abstracts 1984-1988
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 File 483: Newspaper Abs Daily 1986-2002/Oct 23
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 (c) 2002 NTIS, Intl Cpyrght All Rights Res
 File 144: Pascal 1973-2002/Oct W3
 (c) 2002 INIST/CNRS
 File 434: SciSearch(R) Cited Ref Sci 1974-1989/Dec
 (c) 1998 Inst for Sci Info
 File 34: SciSearch(R) Cited Ref Sci 1990-2002/Oct W4
 (c) 2002 Inst for Sci Info
 File 99: Wilson Appl. Sci & Tech Abs 1983-2002/Sep
 (c) 2002 The HW Wilson Co.
 File 583: Gale Group Globalbase(TM) 1986-2002/Oct 23
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 File 266: FEDRIP 2002/Aug
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 File 95: TEME-Technology & Management 1989-2002/Oct W2
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 (c) 2002 American Institute of Physics
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 (c) 2002 American Mathematical Society
 File 438: Library Literature 1984-2002/Sep
 (c) 2002 The HW Wilson Co

Set	Items	Description
S1	784313	TREE OR TREES OR HIERARCH? OR RELATIONAL? ? OR RDBMS OR (D-IRECTORY OR FILE) () STRUCTURE? ?
S2	2813309	TABLE? ? OR ARRAY? ? OR GRID? ? OR MATRIX?? OR MATRICE? ?
S3	11410943	OBJECT? ? OR DATA OR INFORMATION?? OR CONTENT OR DOCUMENT? ? OR RECORD? ?
S4	2109173	PARENT? ? OR DIRECT?? (3N) REPORT??? OR LEADER? ? OR CHILD? ? OR LEAF? ? OR LEAVES OR NODE? ?
S5	171118	S3(3N) (RELATIONSHIP? ? OR RELATION? ? OR ASSOCIATION? ? OR AFFILIATION? ? OR CONNECTION? ? OR INTERRELATION? ? OR CORRELATION? ? OR CORRESPONDENCE? ?)
S6	740819	S3(3N) (ANOTHER OR OTHER OR SECOND??? OR 2ND OR NEXT OR ADDITIONAL OR DIFFERENT OR SEPARATE OR FOLLOWING OR BETWEEN OR HIGHER OR ABOVE OR LOWER OR BELOW OR UNDER)
S7	33527	S6(3N) (RELATE? ? OR RELATING OR ASSOCIAT? OR AFFILIAT? OR -CONNECT? OR ALLIE? ? OR INTERRELAT? OR PARTNER? OR CORRELAT? -OR JOIN?? OR CORRESPOND?)
S8	130833	S4(5N) (RELATIONSHIP? ? OR RELAT???? OR ASSOCIAT? OR AFFILIAT? OR CONNECT? OR ALLIE? ? OR INTERRELAT? OR PARTNER? OR CORRELAT? OR JOIN?? OR CORRESPOND?)
S9	406457	S3(5N) (ID OR IDENTIFIE? ? OR IDENTIFICATION OR NUMBER? ? OR NUMER? OR CODE OR CODES OR CODING OR NAME OR NAMES OR DESIGNATOR? OR DESIGNATION OR TAG? ? OR ADDRESS?? OR POINTER? ?)
S10	3726	S2(10N) S5
S11	244	S1 AND S10

S12	118960	(OBJECT? ? OR DATA OR DOCUMENT? ? OR RECORD? ?) (3N) (RELATIONSHIP? ? OR RELATION? ? OR ASSOCIATION? ? OR AFFILIATION? ? - OR CONNECTION? ? OR INTERRELATION? ? OR CORRELATION? ? OR CORRESPONDENCE? ?)
S13	211	S2(10N)S12 AND S1
S14	158	RD (unique items)
S15	137	S14 NOT PY=2000:2002
S16	28	S2(10N)S7 AND S1
S17	21	RD (unique items)
S18	136	S2(10N)S8 AND S1
S19	96	RD (unique items)
S20	76	S19 NOT PY=2000:2002
S21	130	S15 NOT (S17 OR S20)
S22	45	S21 AND OBJECT? ?
S23	85	S21 NOT S22

17/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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03547465 E.I. Monthly No: EIM9301-003465

Title: A decision tree algorithm with segmentation.
Author: Moura-Pires, Fernando; Steiger-Garcia, Adolfo
Conference Title: Proceedings of the 1991 International Conference on Industrial Electronics, Control and Instrumentation - IECON '91
Conference Location: Kobe, Jpn Conference Date: 19911028
Sponsor: IEEE Industrial Electronics Soc; Soc of Instrument & Control Engineers of Japan
E.I. Conference No.: 17318
Source: IECON Proceedings (Industrial Electronics Conference) v 3. Publ by IEEE, Computer Society, Los Alamitos, CA, USA (IEEE cat n 91CH2976-9). p 2077-2082
Publication Year: 1991
CODEN: IEPREA
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); T; (Theoretical)
Journal Announcement: 9301

Abstract: A novel version of the ID3 induction's decision **tree** algorithm is presented. The aim of this version is to work with feature values which have a measuring process with noise. The induction input is a **table** with feature values where **objects** are labeled. **Different** classifications may be **associated** with the same set of features, and the association of conditional probabilities with each classification is discussed. Features are assumed to be either numeric or not. The features model is discussed and it is indicated how the numeric feature values from the initial table are converted into discrete values (nonnumeric). An algorithm where the process of feature segmentation is integrated in the design of decision **tree** is discussed. The proposed algorithm can be applied directly to sensorial integration in robotics applications. 11 Refs.

Descriptors: *SENSOR DATA FUSION; DECISION THEORY; CLASSIFICATION (OF INFORMATION); ALGORITHMS; EXPERT SYSTEMS; LEARNING SYSTEMS; KNOWLEDGE BASED SYSTEMS

Identifiers: DECISION MAKING; DECISION **TREES** ; MACHINE LEARNING; OBJECT RECOGNITION; INDUCTION; KNOWLEDGE ACQUISITION

Classification Codes:

731 (Automatic Control Principles); 922 (Statistical Methods); 921 (Applied Mathematics); 723 (Computer Software)

73 (CONTROL ENGINEERING); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING)

17/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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00561530 E.I. Monthly No: EI7608053122 E.I. Yearly No: EI76036077

Title: MULTILEVEL VISION RECOGNITION SYSTEM.
Author: Perkins, Walton A.
Corporate Source: GM, Res Lab, Warren, Mich
Source: Gen Mot Corp Res Lab Res Publ GMR-2125, Apr 1976, 31 p
Publication Year: 1976
CODEN: GMRLAW ISSN: 0099-9326
Language: ENGLISH
Journal Announcement: 7608

Abstract: A vision program has been written to determine the position and orientation of complex, curved objects in gray-level, noisy scenes. The image data are organized and reduced in several stages. First, the TV picture (a 256 X 256 **array** of gray-level values) is transformed into edge-point (gradient) **data**. The **next** step involves **connecting** these edge points into chains (ordered sets of linked edge points). Finally, the chains are transformed into ordered sets of connected curves (straight lines and circular arcs) which have the appearance of a line drawing.

Two-dimensional models are entered as data (separate from the recognition program), giving the system generality in its handling of different objects. The program then matches connected curves of the model to those of the image to determine tentative transformations from model to image coordinates. This process uses both shape and **relational** data. Each tentative transformation is then tested by a global method which compares a representation of the model with all of the analyzed image data.

Descriptors: *IMAGE PROCESSING

Classification Codes:

723 (Computer Software); 741 (Optics & Optical Devices)

72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY)

17/5/3 (Item 1 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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01874055 ORDER NO: AADAA-I3042637

Molecular systematics of eastern cottonwood using AFLP and RAPD markers

Author: Ma, Xiaohong

Degree: Ph.D.

Year: 2001

Corporate Source/Institution: Louisiana State University and
Agricultural & Mechanical College (0107)

Director: Michael Stine

Source: VOLUME 63/02-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 606. 99 PAGES

Descriptors: AGRICULTURE, FORESTRY AND WILDLIFE ; BIOLOGY, MOLECULAR

Descriptor Codes: 0478; 0307

ISBN: 0-493-56318-0

Eastern cottonwood (*Populus deltoides* Bartr.) is the fastest growing **tree** in southeastern United States with great potential as a biomass source. DNA-based molecular marker techniques are playing increasingly important roles in elucidating genetic diversity within species. Amplified fragment length polymorphism (AFLP) and random amplified polymorphic DNA (RAPD) markers were employed to study genetic relationships among 57 clones from subregion Lower Mississippi river, West Central, and West Gulf. A total of 101 polymorphic RAPD markers were amplified from 14 primers. Six AFLP primer pairs resulted in a total of 457 polymorphic markers. Both RAPD and AFLP markers were able to uniquely identify all clones, indicating that extensive genetic diversity existed among the clones and demonstrating their efficiency as fingerprinting tools. To understand population structure in eastern cottonwood, leaf samples from 202 **trees** involving 12 natural populations from subregion East Central, East Gulf, and South Atlantic along the species' geographic regions were collected. All identified polymorphic markers, including 492 AFLP markers and 104 RAPD markers were included in the analysis. The within-population genetic diversity was estimated to be 0.2543 from AFLP data and 0.2619 from RAPD data, suggesting there is significant genetic variation within populations. The coefficient of gene differentiation among populations (*F_{ST}*) was estimated to be 0.0663 and 0.0536 for AFLP and RAPD respectively ($P < 0.001$), suggesting population subdivision in eastern cottonwood. The **correlation between AFLP and RAPD data matrices** based on Nei's standard genetic distance as measured by Pearson product moment correlation was 0.4251 ($P = 0.027$). Phylogenetic **trees** were constructed by UPGMA and Neighbor joining method. From AFLP data, populations from East Gulf were always grouped together in both **trees** and this was further supported by bootstrap test of significance of the **trees**. The UPGMA **tree** from RAPD suggested populations from East Central and East Gulf are close to populations within the same subregion, whereas the Neighbor-joining **tree** supported populations from East Central are grouped together. In addition, the variances associated with the population parameters from AFLP analysis were significant lower than that from RAPD analysis, suggesting AFLP analysis is a more reliable tool than RAPD analysis for population study.

17/5/4 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01833656 ORDER NO: AADAA-IC805767

Multiresolution representation and compression of surfaces and volumes

Author: Staddt, Oliver
Degree: Dr.sc.techn.
Year: 2001
Corporate Source/Institution: Eidgenoessische Technische Hochschule
Zuerich (Switzerland) (0663)
Source: VOLUME 62/03-C OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 462. 173 PAGES
Descriptors: COMPUTER SCIENCE
Descriptor Codes: 0984

In this thesis we present a wavelet-based geometry compression pipeline in the context of **hierarchical** surface and volume representations. Due to the increasing complexity of geometric models used in a vast number of different application fields, new methods have to be devised that enable one to store, transmit and manipulate large amounts of data.

Based on a multi-resolution wavelet representation, we have developed a complete compression pipeline suitable for geometric data on uniform grids in two and three dimensions. Local and global oracles in wavelet space are employed to control the approximation error in lossy compression settings. Two novel geometry simplification schemes, which are able to build **hierarchical** mesh representations, are an essential part of the pipeline.

The first method, a bottom-up vertex removal scheme, analyzes the detail information of the data at different levels after reconstruction from wavelet space. The resulting **hierarchical** quadtree data structure is triangulated subsequently using a look-up- **table** that stores the necessary **connectivity information**. The **second** method implements a top-down vertex insertion strategy that is capable of progressive reconstruction of the model. Vertex connectivity is derived using Delaunay triangulation. This approach provides high flexibility for the construction of adaptive surface and volume approximations. Furthermore, it is possible to extract high quality iso-contours and to compress texture attributes along with the geometric surface model.

In contrast to the two wavelet-based approximation schemes, we have devised the progressive tetrahedralization method, an extension of the popular progressive meshes into volumetric settings. These strategies can be used to transform unstructured input meshes into special representations which enable a model to be reconstructed progressively. In the volumetric setting, using tetrahedral mesh approximations, we have to account for potential mesh inconsistencies arising frequently during the coarse of the transformation.

We compare the three approximation schemes with each other using several two- and three-dimensional geometric models and provide an extensive error and performance analysis. These results emphasize the individual strength of each of the introduced methods and concepts.

17/5/5 (Item 3 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01405559 ORDER NO: AADAA-IMM92494

VISUALIZATION OF TEXT BASED INFORMATION

Author: ZUBEREC, SARAH ELIZABETH
Degree: M.A.SC.
Year: 1994
Corporate Source/Institution: UNIVERSITY OF TORONTO (CANADA) (0779)
Supervisor: M. H. CHIGNELL
Source: VOLUME 33/03 of MASTERS ABSTRACTS.
PAGE 971. 132 PAGES

Descriptors: ENGINEERING, INDUSTRIAL; COMPUTER SCIENCE; INFORMATION
SCIENCE

Descriptor Codes: 0546; 0984; 0723

ISBN: 0-315-92494-2

As information visualization techniques become more prevalent, it becomes critically important to develop user interfaces that support exploration of on-line information spaces. Navigational aids should be provided to facilitate users' understanding of the information space. Contextual linking was proposed as a navigational aid. A contextual link propagates a selection in one representation of **information** to **other** representations, by highlighting **associated** or implicated items. Contextual linking was demonstrated using the **table** of contents and index of a printed document viewed on-line in a three dimensional (3D) **hierarchical** format. Two preliminary studies indicated that search tasks carried out using 3D **hierarchical** structures could be affected by the format of the **hierarchy**. The results of these studies were then incorporated into the design of the structure used to display the **hierarchical** text based information. Results of the formal experiment illustrated access and retrieval of text based information was improved with the use of contextual linking. Overall, it is felt that traditional navigational aids should be incorporated on-line to support user's understanding of the information and contextual linking is one method that will support understanding and play an important role in information exploration in the future.

17/5/6 (Item 1 from file: 2)

DIALOG(R) File 2:INSPEC

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7231110 INSPEC Abstract Number: C2002-05-7860-004

Title: **TREAT: a reverse engineering method and tool for environmental databases**

Author(s): Ibrahim, M.; Fedorec, A.M.; Rennolls, K.

Author Affiliation: Greenwich Univ., London, UK

Conference Title: Database and Expert Systems Applications. 12th International Conference, DEXA 2001. Proceedings (Lecture Notes in Computer Science Vol.2113) p.175-85

Editor(s): Mayr, H.C.; Lazansky, J.; Quirchmayr, G.; Vogel, P.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 2001 Country of Publication: Germany xix+991 pp.

ISBN: 3 540 42527 6 Material Identity Number: XX-2001-02494

Conference Title: Database and Expert Systems Applications. 12th International Conference, DEXA 2001. Proceedings

Conference Date: 3-5 Sept. 2001 Conference Location: Munich, Germany

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: This paper focuses on some issues relating to data modelling, quality and management in a specific domain: forests. Many forest domain specialists, e.g., botanists, zoologists, economists and others collect vast volumes of data about the forest fauna and flora, climate, soil, etc. The favourite tools for managing this data are spreadsheets and/or using popular DBMS packages such as Access or FoxPro. The use of these tools introduces two major problems: loss of semantics and poor data structure. These problems and associated issues are examined in the paper. To address these problems, the paper proposes a method for database reverse engineering from spreadsheet tables to a conceptual model and suggests a design of a prototype tool (TREAT). It also explains the motivation for and the methodology and approach adopted. The interactive process used to identify the constituents of the spreadsheet **tables** and data semantics are explained. Semi-automated analysis of the **associations between the data** items in terms of the domain knowledge, constraints and functional dependencies between the data items are also described. The output from the tool may be selected as either an entity-relationship or object or object-relational model. (28 Refs)

Subfile: C

Descriptors: data models; entity-relationship modelling; environmental

science computing; forestry; object-oriented databases; **relational** databases; reverse engineering; scientific information systems; spreadsheet programs

Identifiers: TREAT; reverse engineering; environmental databases; data modelling; forests; spreadsheets; Access; FoxPro; semantics; data structure ; conceptual model; prototype tool; data semantics; domain knowledge; entity-relationship model; object- **relational** model; object model; data management

Class Codes: C7860 (Agriculture, forestry and fisheries computing); C7330 (Biology and medical computing); C6160D (Relational databases); C6160J (Object-oriented databases); C6110 (Systems analysis and programming)

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17/5/7 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5989192 INSPEC Abstract Number: C9809-4250-006

Title: ER isomorphisms and uniqueness conditions

Author(s): Knapp, J.L.

Author Affiliation: Knapp & Associates, Georgetown, Ont., Canada

Journal: Data & Knowledge Engineering vol.26, no.3 p.271-90

Publisher: Elsevier,

Publication Date: July 1998 Country of Publication: Netherlands

CODEN: DKENEW ISSN: 0169-023X

SICI: 0169-023X(199807)26:3L.271:IUC;1-5

Material Identity Number: J515-98005

U.S. Copyright Clearance Center Code: 0169-023X/98/\$19.00

Document Number: S0169-023X(97)00046-3

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Given a collection of entity types (database **tables**) there is usually more than one way to model their **associations** . Consequently, two **data** models may appear **different** while essentially they are the same. To simplify the task of comparing data models, necessary and sufficient conditions are defined for a collection of entity types to have a unique entity relationship diagram (ERD). The sufficient conditions for uniqueness are translated into modeling constraints that can be easily used to build an entity-relationship model. It is shown that the constraints do not prevent the representation of information requirements except for rare types of involuted relationships that seldom appear in the real world. Additionally, sufficient conditions are established for two ERDs to be isomorphic. All of this is done under the assumption that relationships are degree 2 or less. The results are extended to models containing relationships of higher degree. (9 Refs)

Subfile: C

Descriptors: database theory; diagrams; entity-relationship modelling; **relational** databases

Identifiers: ER isomorphisms; uniqueness conditions; entity types; database tables; data models; entity relationship diagram; information requirements; **relational** databases

Class Codes: C4250 (Database theory); C6160D (Relational databases)

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17/5/8 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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5925362 INSPEC Abstract Number: A9813-1110-020

Title: Coset approach to the N=2 supersymmetric matrix GNLS hierarchies

Author(s): Bonora, L.; Krivonos, S.; Sorin, A.

Author Affiliation: Int. Sch. for Adv. Studies, Trieste, Italy

Journal: Physics Letters A vol.240, no.4-5 p.201-12

Publisher: Elsevier,

Publication Date: 6 April 1998 Country of Publication: Netherlands

CODEN: PYLAAG ISSN: 0375-9601

SICI: 0375-9601(19980406)240:4/5L:201:CASM;1-R

Material Identity Number: P029-98018

U.S. Copyright Clearance Center Code: 0375-9601/98/\$19.00

Document Number: S0375-9601(98)00112-1

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: We discuss a large class of coset constructions of the $N=2$ $sl(n, n-1)$ affine superalgebra. We select admissible subalgebras, i.e. subalgebras that induce linear chiral/antichiral constraints on the coset supercurrents. We show that all the corresponding coset constructions lead to $N=2$ matrix GNLS **hierarchies**. We develop an algorithm to compute the relative Hamiltonians and flows. We spell out completely the case of the $N=2$ $sl(3, 2)$, which possesses four admissible subalgebras. The non-local second Hamiltonian structure of the $N=2$ matrix GNLS **hierarchies** is obtained via the Dirac procedure from the local $N=2$ $sl(n, n-1)$ affine superalgebra. We observe that to any second Hamiltonian structure with pure bosonic or pure fermionic superfield **content** there **correspond** two **different** $N=2$ matrix GNLS **hierarchies**. (20 Refs)

Subfile: A

Descriptors: chiral symmetries; conformal field theory; integration; matrix algebra; nonlinear differential equations; nonlinear field theory; supersymmetric field theory

Identifiers: $N=2$ supersymmetric matrix GNLS **hierarchies**; affine superalgebra; subalgebras; linear chiral antichiral constraints; coset supercurrents; relative Hamiltonians computation; nonlocal second Hamiltonian structure; Dirac procedure; bosonic superfield; fermionic superfield

Class Codes: A1110L (Nonlinear or nonlocal field theories and models); A0210 (Algebra, set theory, and graph theory); A0230 (Function theory, analysis); A1130P (Supersymmetry in particle physics); A1130R (Chiral symmetries in particle physics)

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17/5/9 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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5870529 INSPEC Abstract Number: C9805-6160Z-007

Title: Data warehouses and metadata: the importance of metadata management

Author(s): Gardner, S.R.

Conference Title: Data Mining Data Warehousing and Client/Server Databases. Proceedings of the 8th International Database Workshop (Industrial Volume) p.61-71

Editor(s): Siu, B.; Kwan, P.K.M.; Lam, B.; de Vries, P.

Publisher: Springer-Verlag Singapore, Singapore

Publication Date: 1997 Country of Publication: Singapore xii+303 pp.

ISBN: 981 3083 53 0 Material Identity Number: XX98-00280

Conference Title: Proceedings of 8th International Hong Kong Computer Society Database Workshop. Data Mining, Data Warehousing and Client/Server Databases ISBN

Conference Sponsor: Borland (HK); City Univ. Hong Kong; Hong Kong Polytech. Univ.; Hong Kong Comput. Soc.; et al

Conference Date: 29-31 July 1997 Conference Location: Hong Kong

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Metadata is popularly defined as data about data. In a **relational** database, metadata is the representation of the objects defined in the database, in other words the definitions of the **tables**, columns, databases, views and any **other objects**. When used in **association** with data warehousing, metadata refers to anything that defines a data warehouse object-a table, a column, a query, a report, a business rule or a transformation algorithm. Understanding these definitions is critical for all aspects of the data warehouse development process. Metadata management must be tightly controlled, from the development of extraction programs which extract data from the source operational systems, to the transformation of the data into the target data

warehouse. The data warehouse is only useful to gain an competitive advantage if the data that is transformed to populate the information store is able to accurately answer the business questions for which the warehouse was built. (0 Refs)

Subfile: C

Descriptors: business data processing; management information systems; very large databases

Identifiers: data warehouses; metadata management; **relational** database; data representation; extraction programs; source operational systems; data transformation; competitive advantage; information store; business questions

Class Codes: C6160Z (Other DBMS); C7100 (Business and administration)

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17/5/10 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

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5604194 INSPEC Abstract Number: C9707-6140D-035

Title: SQL Test Suite goes online

Author(s): Sullivan, J.

Author Affiliation: Software Diagnostics & Conformance Testing Div., Nat. Inst. of Stand. & Technol., USA

Journal: Computer vol.30, no.6 p.103, 105

Publisher: IEEE Comput. Soc,

Publication Date: June 1997 Country of Publication: USA

CODEN: CPTRB4 ISSN: 0018-9162

SICI: 0018-9162(199706)30:6L:103:TSGO;1-X

Material Identity Number: C125-97006

U.S. Copyright Clearance Center Code: 0018-9162/97/\$10.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Does your **relational** database speak SQL fluently? It's easy to find out, because the SQL (Structured Query Language) Test Suite is now free on the Web. SQL is the standard that lets DBMS products from different vendors interoperate. It defines common data structures (tables, columns, views, and so on) and provides a data manipulation language to populate, update, and query those structures. Accessing structured data with SQL is quite different from searching the full text of documents on the Web. Structured data in the **relational** model means data that can be represented in tables. Each row represents a different item, and the columns represent various attributes of the item. Columns have names and integrity constraints that specify valid values. Because the column values are named and represented in a consistent format, you can select rows precisely, on the basis of their contents. This is especially helpful in dealing with numeric data. You can also **join data** from **different tables** on the basis of matching column values. It is possible to do useful types of analysis too, listing items that are in one table and are missing, present, or have specific attributes in a related table. You can extract from a large table precisely those rows of interest, regroup them, and generate simple statistics on them. (0 Refs)

Subfile: C

Descriptors: data integrity; factographic databases; information retrieval; Internet; **relational** databases; SQL

Identifiers: SQL Test Suite; **relational** database; Structured Query Language; World Wide Web; common data structures; data manipulation language; structured data access; searching; **relational** model; integrity constraints; consistent format; numeric data; Internet

Class Codes: C6140D (High level languages); C6160D (Relational databases); C4250 (Database theory); C7250L (Non-bibliographic retrieval systems); C7250R (Information retrieval techniques); C6130 (Data handling techniques); C5620W (Other computer networks); C7210 (Information services and centres)

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17/5/11 (Item 6 from file: 2)

DIALOG(R)File 2:INSPEC

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5375984 INSPEC Abstract Number: C9610-6160D-015

Title: Discovering foreign key relations in relational databases

Author(s): Knobbe, A.J.; Adriaans, P.W.

Author Affiliation: Syllogic, Houten, Netherlands

Conference Title: Cybernetics and Systems '96. Proceedings of the Thirteenth European Meeting on Cybernetics and Systems Research Part vol.2 p.961-6 vol.2

Editor(s): Trappl, R.

Publisher: Austrian Soc. Cybernetic Studies, Vienna, Austria

Publication Date: 1996 Country of Publication: Austria 2 vol. (xviii+xvi+1241) pp.

ISBN: 3 85206 133 4 Material Identity Number: XX96-02339

Conference Title: Proceedings of 13th European Meeting on Cybernetics and Systems Research

Conference Sponsor: Federal Ministr. Sci., Res. & the Arts; Vienna Tourist Board

Conference Date: 9-12 April 1996 Conference Location: Vienna, Austria

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: In this paper we analyse the problem of discovering foreign key relations in a **relational** database, and in particular the subproblem of discovering keys in a table. Foreign key relations are integrity constraints on the data, similar to functional dependencies and inclusion dependencies, that specify how **data** in **different tables** **relate** to each other. We show how keys can be found by sorting the records in the table, and how information from previous sorts may be reused. By zooming in on the records that cause conflicts, computation is sped up. The effect of repeatedly considering subsets of records is common in discovery-algorithms and can be seen as a primitive function for a general data mining framework. (13 Refs)

Subfile: C

Descriptors: database theory; knowledge acquisition; **relational** databases

Identifiers: foreign key relations; **relational** databases; integrity constraints; functional dependencies; inclusion dependencies; sorting; discovery-algorithms; general data mining framework

Class Codes: C6160D (Relational databases); C4250 (Database theory); C6170K (Knowledge engineering techniques)

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17/5/12 (Item 7 from file: 2)

DIALOG(R)File 2:INSPEC

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5225611 INSPEC Abstract Number: C9605-6160D-009

Title: Uniqueness conditions for ER representations

Author(s): Knapp, J.L.

Author Affiliation: Texas Instrum. Canada Ltd., North York, Ont., Canada

Conference Title: OOER '95: Object-Oriented and Entity-Relationship Modeling. 14th International Conference. Proceedings p.296-307

Editor(s): Papazoglou, M.P.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1995 Country of Publication: West Germany viii+449 pp.

ISBN: 3 540 60672 6 Material Identity Number: XX95-03042

Conference Title: OOER '95: Object-Oriented and Entity-Relationship Modeling. 14th International Conference. Proceedings

Conference Sponsor: Sun Microsyst.; Inf. Ind. Board; Queensland Univ. Technol.; Australian Dept. Ind. Sci. & Technol

Conference Date: 13-15 Dec. 1995 Conference Location: Gold Coast, Qld., Australia

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Given a collection of entity types (database **tables**) there is

usually more than one way to model their **associations** . Consequently two **data** models may appear **different** while essentially they are the same. To simplify the task of comparing data models, necessary and sufficient conditions are defined for a collection of entity types to have a unique entity relationship diagram. The sufficient conditions for uniqueness are translated into modeling constraints that can be easily used to build an entity relationship model. It is shown that the constraints do not prevent the representation of information requirements except for rare types of involuted relationships that seldom appear in the real world. All of this is done under the assumption that relationships are degree 2 or less. The results are extended to models containing relationships of higher degree.

(8 Refs)

Subfile: C

Descriptors: data structures; database theory; entity-relationship modelling; **relational** databases; set theory

Identifiers: uniqueness conditions; ER representations; entity types; database tables; data models; sufficient conditions; entity relationship diagram; modeling constraints; entity relationship model; involuted relationships

Class Codes: C6160D (Relational databases); C1160 (Combinatorial mathematics); C6110 (Systems analysis and programming); C6120 (File organisation); C4250 (Database theory)

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17/5/13 (Item 8 from file: 2)

DIALOG(R)File 2:INSPEC

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4933286 INSPEC Abstract Number: B9506-6150C-024, C9506-5620-006

Title: A scalable approach to routing in ATM networks

Author(s): Cidon, I.; Gerstel, O.; Zaks, S.

Author Affiliation: Sun Microsyst. Labs., Mountain View, CA, USA

p.209-22

Editor(s): Tel, G.; Vitanyi, P.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1994 Country of Publication: West Germany x+369 pp.

ISBN: 3 540 58449 8

Conference Title: 8th International Workshop on Distributed Algorithms

Conference Sponsor: Nat. Facilitieit Inf

Conference Date: 29 Sept.-1 Oct. 1994 Conference Location:

Terschelling, Netherlands

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: We discuss a new routing problem that arises in a very popular type of fast communication networks, namely ATM networks. We first define a graph-theoretic model that captures the characteristics of the new routing problem. In this model we define the general routing problem, and a more restricted case which helps in the solution of the general case. For the latter case we present a routing scheme for a given **tree** network, by decomposing the network into sub-networks and operating on each sub-network recursively. We also analyze the quality of the resulting routing. Next, we use our scheme as a building block in a scheme for solving the general problem and analyze the quality of this solution as well. We conclude by proving lower bounds that establish the asymptotic optimality of our results. The results exhibit a tradeoff between the efficiency of two important factors in ATM networks, namely, (1) the size of the routing **tables** , and (2) the overhead during the setup of a **data connection between** any two network users. (19 Refs)

Subfile: B C

Descriptors: asynchronous transfer mode; telecommunication network routing; telecommunication networks

Identifiers: scalable approach; routing; ATM networks; fast communication networks; graph-theoretic model; **tree** network; lower bounds; asymptotic optimality; routing tables; overhead

Class Codes: B6150C (Communication switching); B6230 (Switching centres and equipment); B6150P (Communication network design and planning); C5620 (Computer networks and techniques)

17/5/14 (Item 9 from file: 2)

DIALOG(R)File 2:INSPEC

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03861791 INSPEC Abstract Number: A91051772

Title: **Correlation functions and phase structure of the three-matrix model**

Author(s): Kreuzer, M.

Author Affiliation: Inst. for Theor. Phys., California Univ., Santa Barbara, CA, USA

Journal: Physics Letters B vol.254, no.1-2 p.81-8

Publication Date: 17 Jan. 1991 Country of Publication: Netherlands

CODEN: PYLBAJ ISSN: 0370-2693

U.S. Copyright Clearance Center Code: 0370-2693/91/\$03.50

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Calculates exact correlation functions of two-dimensional gravity coupled to matter in the three- **matrix** model realization. The author finds an interesting **connection between** the matter **content** and the local phase structure at multicritical points. For the Ising model the (A-type) KdV **hierarchy** describes the high temperature phase. For the tricritical Ising model the author finds three phases and checks the fusion rules. (19 Refs)

Subfile: A

Descriptors: axiomatic field theory; Ising model; lattice theory and statistics; matrix algebra; quantum field theory of gravitation

Identifiers: quantum gravity; exact correlation functions; two-dimensional gravity; three-matrix model realization; matter content; local phase structure; multicritical points; Ising model; KdV **hierarchy** ; high temperature phase; tricritical Ising model; fusion rules

Class Codes: A0460 (Quantum theory of gravitation); All10C (Axiomatic approach); A0550 (Lattice theory and statistics; Ising problems); A0210 (Algebra, set theory, and graph theory)

17/5/15 (Item 1 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

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00618601 01CW01-103

Relational **databases**

Loshin, Pete

Computerworld , January 8, 2001 , v35 n2 p60, 1 Page(s)

ISSN: 0010-4841

Languages: English

Document Type: Articles, News & Columns

Geographic Location: United States

Focuses on **relational** databases. Reports that **relational** databases allow data to be stored in multiple flat-file **tables** that are **related** to one **another** by shared **data** fields called keys. Says that **relational** databases offer easier access to ad hoc reports generally via Structured Query Language (SQL), and improved reliability through a lack of redundancy. Mentions that IBM Corp. researcher E.F. Codd essentially created and defined the **relational** database concept in his work "A

Relational Model of Data for Large Shared Data Banks" in June 1970. Indicates that one of the implications of Codd's work is that **relational** databases use declarative rather than procedural programming languages. Explains that the vast majority of heavy duty databases rely on **relational** database management system (**RDEMS**) software available from IBM Corp., Microsoft Corp., Oracle Corp., and Sybase Inc. Includes a diagram. (MEM)

Descriptors: Database; Data Base Management; Information Management; Tables; Information Technology; Knowledge Management; SQL

17/5/16 (Item 2 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

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00128018 86IW09-134

File management software

Mace, Scott

InfoWorld , Sep 08 1986 , v8 n36 p29-30, 2 Pages

ISSN: 0199-6649

Languages: English

Document Type: Article

Geographic Location: United States

Presents user responses to file-management software packages. Notes that several types exist including **relational** programs which **join information** from **different tables** and flat-file programs which usually don't handle more than one table at a time.

Descriptors: DATA BASE MANAGEMENT

17/5/17 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-Eplus

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03202899 JICST ACCESSION NUMBER: 97A0435269 FILE SEGMENT: JICST-E

Joint Stiffness Identification of Body Structure Using Neural Network.

OKABE AKIFUMI (1); TOMIOKA NOBORU (2)

(1) Nihon Univ., Grad. Div.; (2) Nihon Univ., Coll. of Sci. and Technol. Nippon Kikai Gakkai Keisan Rikigaku Koenkai Koen Ronbunshu, 1996, VOL.9th, PAGE.423-424, FIG.5, REF.8

JOURNAL NUMBER: L0203AAW

UNIVERSAL DECIMAL CLASSIFICATION: 624.072.33

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: With an L-section **joint** member as the **object** , the relation **between** stiffness **matrix** adopting shearing force and axial force and its influential factor (plate thickness and cross section dimensions) was constructed with the titled method, and it is shown that joint rigidity can be estimated well for the influential factor. A deflection distribution was obtained with an output value obtained by input of plate thickness and cross section dimensions into post learning NN used as the factor of joint stiffness matrix. Another deflection distribution was obtained with correct solution value used for a finite element method analysis result and joint stiffness matrix. This paper shows that the two agree well. It is proven that the relation between joint rigidity and the influential factor can be constructed with **hierarchical** NN.

DESCRIPTORS: neural network; stiffness matrix; back propagation; rigid frame; load(weight); deflection(material phenomenon); finite element method; automobile

BROADER DESCRIPTORS: network; matrix(mathematics); algebraic system; neural network model; biomodel; model; frame(structure); phenomena in strength of material; phenomenon; approximation method

CLASSIFICATION CODE(S): HD03040D

17/5/18 (Item 1 from file: 6)

DIALOG(R)File 6:NTIS

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2244067 NTIS Accession Number: N20020063496/XAB

PEGASUS 5: An Automated Pre-Processor for Overset-Grid CFD

Suhs, N. E. ; Rogers, S. E. ; Dietz, W. E.

National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center.

Corp. Source Codes: 019045001; NC473657

2002 38p

Languages: English

Journal Announcement: USGRDR0225; STAR4008

Presented at AIAA Fluid Dynamics Conference Saint Louis, MO 24-27 Jun. 2002. American Inst. of Aeronautics and Astronautics.

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NTIS Prices: PC A04/MF A01

Country of Publication: United States

Contract No.: RTOP 755-50-11

An all new, automated version of the PEGASUS software has been developed and tested. PEGASUS provides the hole-cutting and **connectivity information between overlapping grids**, and is used as the final part of the grid generation process for overset-grid computational fluid dynamics approaches. The new PEGASUS code (Version 5) has many new features: automated hole cutting; a projection scheme for fixing gaps in overset surfaces; more efficient interpolation search methods using an alternating digital **tree**; hole-size optimization based on adding additional layers of fringe points; and an automatic restart capability. The new code has also been parallelized using the Message Passing Interface standard. The parallelization performance provides efficient speed-up of the execution time by an order of magnitude, and up to a factor of 30 for very large problems. The results of three example cases are presented: a three-element high-lift airfoil, a generic business jet configuration, and a complete Boeing 777-200 aircraft in a high-lift landing configuration. Comparisons of the computed flow fields for the airfoil and 777 test cases between the old and new versions of the PEGASUS codes show excellent agreement with each other and with experimental results.

Descriptors: *Computational fluid dynamics; *Computational grids; *Grid generation(Mathematics); *Applications programs(Computers); Boeing 777 aircraft; Flow distribution; Hole geometry(Mechanics); Parallel programming

Identifiers: NTISNASA

Section Headings: 62B (Computers, Control, and Information Theory--Computer Software)

17/5/19 (Item 2 from file: 6)

DIALOG(R)File 6:NTIS

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1747149 NTIS Accession Number: DE93013306

Overview of the human genome database platform-Sybase

Yeh, T. M. ; Wagner, M. ; Slezak, T.

Lawrence Livermore National Lab., CA.

Corp. Source Codes: 068147000; 9513035

Sponsor: Department of Energy, Washington, DC.

Report No.: UCRL-ID-108558

21 Apr 92 63p

Languages: English

Journal Announcement: GRAI9320; ERA9341

Sponsored by Department of Energy, Washington, DC.

Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NTIS Prices: PC A04/MF A01

Country of Publication: United States

Contract No.: W-7405-ENG-48

The Human Genome Project is a joint effort between the DOE and the NIH. The initial DOE effort at LLNL focused on forming a large-scale map of chromosome 19 by finding a set of some 2,500 cosmid clones that overlap and span all (approximately)60 million nucleotides of the chromosome. Unfortunately, the process of making cosmid clones loses all information about their ordering. To regain this ordering information we fingerprinting each cosmid clone in a laser gel electrophoresis system and compare the fingerprints against all others looking for overlap. LLNL has chosen chromosome 19 because it is one of the smaller chromosomes and because it contains genes of interest that LLNL researchers have studied in great detail during recent years. Approximately one year ago the DOE labs working

on the Human Genome Project selected Sybase as their **relational** database management system. Since that time we have installed the Sybase Server on one SUN-4 and the Sybase front-end tools on several of our other SUN computers. Additionally, nearly all existing data that was stored in ASCII files has been transferred into Sybase. This project which has been a collaborative effort between Biomed and ADD has resulted in a database that ensures the genome data is accurately stored, effectively managed, and conveniently accessible to the biologists in the project. In order to service the varying and rapidly changing needs of genome project we have brought up several different databases providing capabilities for storing the genome experiment and lab notebook data, testing subsets of our data to develop new features, and a working place for biologists to examine their data and implement their own data tables. Sybase triggers and rules were extensively used to maintain the referential integrity of the data by checking the consistency of logically **related data in different tables**.

Descriptors: *Genetic Mapping; *Human Chromosomes; *Information Systems; Information Retrieval

Identifiers: *Human genome; EDB/550400; EDB/990300; EDB/990200; NTISDE

Section Headings: 57F (Medicine and Biology--Cytology, Genetics, and Molecular Biology)

17/5/20 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
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15248702 PASCAL No.: 01-0417391

Propositionalisation and aggregates

PKDD 2001 : principles of data mining and knowledge discovery : Freiburg, 3-5 September 2001

KNOBBE Arno J; DE HAASE Marc; SIEBES Arno

DE RAEDT Luc, ed; SIEBES Arno, ed

Kiminkii, P.O. box 171, 3990 DD Houten, Netherlands; Utrecht University, P.O. box 80 089, 3508 TB Utrecht, Netherlands; Perot Systems Nederland B.V., P.O. box 2729, 3800 GG Amersfoort, Netherlands

European conference on principles of data mining and knowledge discovery, 5 (Freiburg DEU) 2001-09-03

Journal: Lecture notes in computer science, 2001, 2168 277-288

ISBN: 3-540-42534-9 ISSN: 0302-9743 Availability: INIST-16343; 354000097019970230

No. of Refs.: 14 ref.

Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)

Country of Publication: Germany; United States

Language: English

The fact that data is scattered over many tables causes many problems in the practice of data mining. To deal with this problem, one either constructs a single table by hand, or one uses a Multi- **Relational** Data Mining algorithm. In this paper, we propose a different approach in which the single **table** is constructed automatically using aggregate functions, which repeatedly summarise **information from different tables over associations** in the datamodel. Following the construction of the single **table**, we apply traditional data mining algorithms. Next to an in-depth discussion of our approach, the paper presents results of experiments on three well-known data sets.

English Descriptors: Data processing; Data analysis; Information extraction ; **Relational** database; Data mining; Propositionalization

French Descriptors: Traitement donnee; Analyse donnee; Extraction information; Base donnee relationnelle; Fouille donnee; Propositionalisation

Classification Codes: 001D02B07D

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17/5/21 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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01730288 Genuine Article#: HW759 Number of References: 55

**Title: ANALYSIS OF MOLECULAR VARIANCE INFERRED FROM METRIC DISTANCES AMONG
DNA HAPLOTYPES - APPLICATION TO HUMAN MITOCHONDRIAL-DNA RESTRICTION
DATA**

Author(s): EXCOFFIER L; SMOUSE PE; QUATTRO JM

Corporate Source: RUTGERS STATE UNIV, COOK COLL, CTR THEORET & APPL GENET/NEW
BRUNSWICK//NJ/08903; UNIV GENEVA, DEPT ANTHROPOL & ECOL/CH-1227
CAROUGE//SWITZERLAND/; STANFORD UNIV, DEPT BIOL SCI, HOPKINS MARINE
STN/PACIFIC GROVE//CA/93950

Journal: GENETICS, 1992, V131, N2 (JUN), P479-491

Language: ENGLISH Document Type: ARTICLE

Geographic Location: SWITZERLAND; USA

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC AGRI--

Current Contents, Agriculture, Biology & Environmental Sciences

Journal Subject Category: GENETICS & HEREDITY

Abstract: We present here a framework for the study of molecular variation within a single species. Information on DNA haplotype divergence is incorporated into an analysis of variance format, derived from a matrix of squared-distances among all pairs of haplotypes. This analysis of molecular variance (AMOVA) produces estimates of variance components and F-statistic analogs, designated here as PHI-statistics, reflecting the correlation of haplotypic diversity at different levels of **hierarchical** subdivision. The method is flexible enough to accommodate several alternative input **matrices**, **corresponding** to **different** types of molecular **data**, as well as **different** types of evolutionary assumptions, without modifying the basic structure of the analysis. The significance of the variance components and PHI-statistics is tested using a permutational approach, eliminating the normality assumption that is conventional for analysis of variance but inappropriate for molecular data. Application of AMOVA to human mitochondrial DNA haplotype data shows that population subdivisions are better resolved when some measure of molecular differences among haplotypes is introduced into the analysis. At the intraspecific level, however, the additional information provided by knowing the exact phylogenetic relations among haplotypes or by a nonlinear translation of restriction-site change into nucleotide diversity does not significantly modify the inferred population genetic structure. Monte Carlo studies show that site sampling does not fundamentally affect the significance of the molecular variance components. The AMOVA treatment is easily extended in several different directions and it constitutes a coherent and flexible framework for the statistical analysis of molecular data.

20/5/4 (Item 4 from file: 8)
DIALOG(R)File 8:EI Compendex(R)
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04343062 E.I. No: EIP96023023378

Title: Image compression with a hierarchical neural network

Author: Namphol, Aran; Chin, Steven H.; Arozullah, Mohammed

Corporate Source: Assumption Univ, Bangkok, Thail

Source: IEEE Transactions on Aerospace and Electronic Systems v 32 n 1
Jan 1996. p 326-337

Publication Year: 1996

CODEN: IEARAX ISSN: 0018-9251

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9604W1

Abstract: A neural network data compression method is presented. This network accepts a large amount of image or text data, compresses it for storage or transmission, and subsequently restores it when desired. A new training method, referred to as the Nested Training Algorithm (NTA), that reduces the training time considerably is presented. Analytical results are provided for the specification of the optimal learning rates and the size of the training data for a given image of specified dimensions. Performance of the network has been evaluated using both synthetic and real-world data. It is shown that the developed architecture and training algorithm provide high compression ratio and low distortion while maintaining the ability to generalize, and is very robust as well. (Author abstract) 13 Refs.

Descriptors: Image compression; Neural networks; **Hierarchical** systems; Algorithms; Performance; Signal distortion; Spurious signal noise

Identifiers: Nested training algorithm; Optimal learning rates; Training data; Compression ratio; Pixels; Hidden **nodes** ; Subscenes; Pixel patches; **Correlation matrix**

Classification Codes:

741.1 (Light/Optics); 723.2 (Data Processing); 723.4 (Artificial Intelligence); 921.6 (Numerical Methods); 716.1 (Information & Communication Theory)

741 (Optics & Optical Devices); 723 (Computer Software); 921 (Applied Mathematics); 716 (Radar, Radio & TV Electronic Equipment)

74 (OPTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS); 71 (ELECTRONICS & COMMUNICATIONS)

20/5/8 (Item 8 from file: 8)
DIALOG(R)File 8:EI Compendex(R)
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03338885 E.I. Monthly No: EIM9111-060049

Title: Hierarchical network routing.

Author: Lauder, P.; Kummerfeld, R. J.; Fekete, A.

Corporate Source: Dept of Comput Sci, Univ of Sydney, NSW, Australia

Conference Title: Proceedings of TRICOMM '91 - IEEE Conference on Communications Software: Communications for Distributed Applications and Systems

Conference Location: Chapel Hill, NC, USA Conference Date: 19910418

Sponsor: IEEE Communications Soc; Univ of North Carolina at Chapel Hill; MCNC

E.I. Conference No.: 15146

Source: Proceedings of TRICOMM '91: IEEE Conference on Communications Software: Communications for Distributed Applications and Systems Proc TRICOMM 91 IEEE Conf Commun Software Commun Distrib Appl Syst. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA (IEEE cat n 91CH2955-3). p 105-114

Publication Year: 1991

ISBN: 0-87942-649-7

Language: English

Document Type: PA; (Conference Paper) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9111

Abstract: A disadvantage of Link State routing schemes is that exact

shortest path calculations require a complete topology, which can overload the capacity of small nodes in a large network. Area routing schemes (when destination names are structured **corresponding** to the network topology) allow **nodes** to reduce the size of routing **tables**, by recording only one entry for an entire region rather than one for each node in the region. A description is presented of a general **hierarchical** routing scheme that allows all nodes to participate in a distributed routing network, using close to optimal paths, with short routing tables, and a reduction of topology information for minor nodes. 8 Refs.

Descriptors: *COMPUTER NETWORKS--*Protocols; DIGITAL COMMUNICATION SYSTEMS--Performance

Identifiers: ROUTING SCHEMES; DISTRIBUTED ROUTING NETWORKS

Classification Codes:

718 (Telephone & Line Communications); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING)

20/5/9 (Item 9 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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02095648 E.I. Monthly No: EIM8606-036298

Title: SOLVING TREE PROBLEMS ON A MESH-CONNECTED PROCESSOR ARRAY.

Author: Atallah, Mikhail J.; Hambruch, Susanne E.

Corporate Source: Purdue Univ, West Lafayette, IN, USA

Conference Title: 26th Annual Symposium on Foundation of Computer Science.

Conference Location: Portland, OR, USA Conference Date: 19851021

Sponsor: IEEE Computer Soc, Technical Committee on Mathematical Foundations of Computing, Los Alamitos, CA, USA; ACM, Special Interest Group for Automata & Computability Theory, New York, NY, USA

E.I. Conference No.: 07908

Source: Annual Symposium on Foundations of Computer Science (Proceedings) 26th. Publ by IEEE, New York, NY, USA. Available from IEEE Service Cent (Cat n 85CH2224-4), Piscataway, NJ, USA p 222-231

Publication Year: 1985

CODEN: ASFPDV ISSN: 0272-5428 ISBN: 0-8186-0644-4

Language: English

Document Type: PA; (Conference Paper)

Journal Announcement: 8606

Abstract: Techniques are presented that result in $O(\sqrt{n})$ time algorithms for computing many properties and functions of an n -node forest stored in an $\sqrt{n} \times \sqrt{n}$ mesh of processors. The algorithms include computing simple properties like the depth, the height, the number of descendants, the preorder (or postorder, or inorder) number of every node, and a solution to the more complex problem of computing the minimax value of a game **tree**. The algorithms are asymptotically optimal since any nontrivial computation will require $\Omega(\sqrt{n})$ time on the mesh. All of the algorithms generalize to higher-dimensional meshes. 16 refs.

Descriptors: COMPUTER PROGRAMMING--*Algorithms; MATHEMATICAL TECHNIQUES--**Trees**; COMPUTER SYSTEMS, DIGITAL--Parallel Processing

Identifiers: **ARRAY PROCESSING; MESH- CONNECTED PROCESSOR ARRAY ; N-NODE FOREST**

Classification Codes:

723 (Computer Software); 921 (Applied Mathematics); 722 (Computer Hardware)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

20/5/10 (Item 10 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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01186020 E.I. Monthly No: EI8205042599 E.I. Yearly No: EI82074126

Title: AUTOMATED APPROACH TO THE DESIGN OF DECISION TREE CLASSIFIERS.

Author: Argentiero, Peter; Chin, Roland; Beaudet, Paul

Corporate Source: NASA, Goddard Space Flight Cent, Greenbelt, Md, USA

Source: IEEE Transactions on Pattern Analysis and Machine Intelligence v

Publication Year: 1982

CODEN: ITPIDJ ISSN: 0162-8828

Language: ENGLISH

Journal Announcement: 8205

Abstract: The classification of large dimensional data sets arising from the merging of remote sensing data with more traditional forms of ancillary data causes a significant computational problem. Decision **tree** classification is a popular approach to the problem. This type of classifier is characterized by the property that samples are subjected to a sequence of decision rules before they are assigned to a unique class. If a decision **tree** classifier is well designed, the result in many cases is a classification scheme which is accurate, flexible, and computationally efficient. This work provides an automated technique for effective decision **tree** design which relies only on a priori statistics. This procedure utilizes canonical transforms and Bayes **table** look-up decision rules. An optimal design at each **node** is derived based on the **associated** decision **table**. A procedure for computing the global probability of correct classification is also provided. 12 refs.

Descriptors: *PATTERN RECOGNITION SYSTEMS

Classification Codes:

723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

20/5/18 (Item 6 from file: 35)

DIALOG(R) File 35:Dissertation Abs Online

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859027 ORDER NO: AAD84-22500

A NEURAL MODEL OF A SEMANTIC NETWORK (KNOWLEDGE-BASE, PARALLEL, ASSOCIATIVE)

Author: WINSTON, HOWARD ANDREW

Degree: PH.D.

Year: 1984

Corporate Source/Institution: BROWN UNIVERSITY (0024)

Source: VOLUME 45/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 2235. 383 PAGES

Descriptors: COMPUTER SCIENCE

Descriptor Codes: 0984

A system (PSNET) is described that implements a semantic network in simulated neurally plausible hardware. It is shown how knowledge representation constructs can be reduced to aspects of a parallel associative memory model.

The PSNET system is used to demonstrate how information can be quickly accessed in very large knowledge-bases. PSNET is also used as a tool to study how the internal structure of a concept can affect its associative interactions with other concepts.

PSNET is composed of a number of subsystems that exist at different descriptive levels. Each subsystem is described along with its relations to those at adjacent levels. The top-level subsystem is a structured inheritance **hierarchy** that provides a formalism for the representation of real-world knowledge. A logical level network is used to represent the propositional content of the top-level semantic network links. Logical level links and **nodes** are in turn represented by **associative matrix** terms and state vectors at the associative memory level. Finally, associative memory data structures are interpreted as describing the state of a system of model neurons at the neural network level.

At the neural network level, PSNET concepts are implemented as distributed patterns of neural activity, which are represented by state vectors. The use of a particular state vector representation of concepts (i.e., the overlapping state vector representation) for automating property inheritance and inductive generalization in semantic networks is discussed.

Three computer simulations that illustrate how low-level state vector codings of semantic network nodes can influence the results of memory retrieval processes are described. The first simulation shows how

the overlapping state vector representation generalizes properties explicitly predicated of a category's exemplars to apply to the category itself. Simulation 2 shows that the structure acquired by a category, due to the overlapping representation, is prototypical in nature. That is, a category's description reflects the frequencies with which properties appear among its exemplars. The third simulation shows how a category's description can also be acquired by inductive generalization from the properties of its siblings in an inheritance **hierarchy**.

PSNET's parallel processing mechanisms are explored in detail. It is shown how (a) multiple access, (b) divergence, and (c) chain parallel processing occur in PSNET. A new synaptic modification rule is proposed that causes PSNET to exhibit divergent fan-effects similar to those found human subjects.

20/5/19 (Item 1 from file: 202)
DIALOG(R)File 202:Information Science Abs.
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3200803

Method and system for storing and retrieving data from a multidimensional array using database pointers.

Author(s): Perez, M
Patent Number(s): US 5592666
Publication Date: Jan 7, 1997
Language: English
Document Type: Patent
Record Type: Abstract
Journal Announcement: 3200

A system and method for storing within, and retrieving from, a computer database values of a multidimensional **array** in which storage locations are allocated within each storage **node** of the database **corresponding** to a dimension of the **array** only for the database-pointers actually stored within the storage node. An indicium is stored with each database-pointer to identify the element of the array's dimension to which the database-pointer corresponds. In an alternative embodiment, a sub-storage area, with sub-storage locations allocated for each of the elements of the dimension to which the storage node corresponds, is associated with each storage node, and an indicium is stored within each sub-storage location indicating whether a database-pointer exists in the **associated** storage **node corresponding** to the **associated** element. A **hierarchical table** of calculation rules also is provided for determining values which are calculated from other values within the array. Each of the table's rules defines one or more storage locations within the array and provides a formula for calculating the values applicable to those locations.

Descriptors: Array processors; Databases; Information retrieval;
Information storage
Classification Codes and Description: 5.07 (Storage); 5.11 (Searching and Retrieval)
Main Heading: Information Processing and Control

20/5/20 (Item 2 from file: 202)
DIALOG(R)File 202:Information Science Abs.
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2703068

Complied objective referential constraints in a relational database having dual chain relationship descriptors linked in data record tables.

Author(s): Crus, R A; Dockter, M.J.; Engles, R.W.; Haderle, D.J.
Patent Number(s): US 5133068
Publication Date: Jul 21, 1992
Language: English
Document Type: Patent
Record Type: Abstract

An implementation of referential integrity in which descriptions of referential constraints are compiled into meta-data descriptions of the constraint rules and specifications. The meta-data descriptions of the constraints are stored in the form of objects called relationship descriptors. Each relationship descriptor contains a complete description of a referential constraint, either directly or by means of pointers to other objects such as record and index descriptors which contain information comprised in the constraint's specification. The relationship descriptors are linked into two types of chains by symbolic pointers. One type of relationship descriptor chain connects all **relationship** descriptors which have a common **parent table**. The other type of **relationship** descriptor chain connects relationship descriptors with common dependent **tables**. Both types of chains are anchored in respective fields in the tables' record descriptors. The use of meta-data descriptors facilitates both ready modification of the constraints, and speedy enforcement of the constraints by a single, shared procedure which may be embedded in the data base manager.

Descriptors: Descriptors; Patents; **Relational** databases
Classification Codes and Description: 6.02 (Bibliographic Search Services, Databases)
Main Heading: Information Systems and Applications

20/5/21 (Item 3 from file: 202)
DIALOG(R)File 202:Information Science Abs.
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2502836

The Chemical Abstracts Service generic chemical (Markush) structure storage and retrieval capability. 1. Basic concepts.

Author(s): Fisanick, W

Corporate Source: Chemical Abstracts Service, Columbus, OH

Journal of Chemical Information and Computer Sciences vol. 30, no. 2
, pages 145-154

Publication Date: May 1990

ISSN: 0095-2338

Language: English

Document Type: Journal Article

Record Type: Abstract

Journal Announcement: 2500

The concepts and strategies presented in this paper provide a new way of viewing and representing chemical structures for both specific and generic substances. Groups such as ethyl and phenyl have generic group **nodes** in the **connection tables** as alternatives to their specific atom designations. A set of 11 generic group nodes is used. The generic group nodes are **hierarchical** and can be further qualified by attributes such as the carbon range and ring size. Colloquial generic groups such as alkyl and aryl are likewise mapped onto the **hierarchical** generic group nodes and appropriate attributes. The fragments of variable groups in the input representation are attached to the appropriate portion of the structure as simple alternatives at a designated point of variability. Points of variability are sometimes algorithmically shifted in the structure to simplify further processing. The resulting topological representation enables searching of specific or generic substances with structure queries consisting of all generic groups, all specific atom groups, or any combination of specific atom and generic groups, and with or without expressed variability.

Descriptors: CAS (Chemical abstracts service); Chemical data; **Hierarchical file structure**; Information retrieval
Classification Codes and Description: 6.05 (Physical Sciences and Engineering); 6.10 (Law); 6.06 (Life Sciences and Biomedicine)
Main Heading: Information Systems and Applications

20/5/26 (Item 5 from file: 2)

DIALOG(R) File 2:INSPEC

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5920496 INSPEC Abstract Number: C9806-6160D-009

Title: Objects collection management in multidimensional DBMS data model

Author(s): Lim, T.-M.; Lee, S.-P.

Author Affiliation: Fac. of Comput Sci. & Inf. Technol., Malaya Univ., Kuala Lumpur, Malaysia

Conference Title: Proceedings First International Symposium on Object-Oriented Real-Time Distributed Computing (ISORC '98) (Cat. No.98EX146) p.136-7

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1998 Country of Publication: USA xiv+485 pp.

ISBN: 0 8186 8430 5 Material Identity Number: XX98-00947

U.S. Copyright Clearance Center Code: 0 8186 8430 5/98/\$10.00

Conference Title: Proceedings First International Symposium on Object-Oriented Real-Time Distributed Computing (ISORC '98)

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Distributed Process.; Inf. Process. Soc. Japan (SIGSE); IFIP WG. 10.4; OMG

Conference Date: 20-22 April 1998 Conference Location: Kyoto, Japan

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: A multidimensional DBMS (MDBMS) data model is a nested **relational** DBMS (**RDEMS**) that has been made available since 1970. A multidimensional DBMS data model could model real world problems more naturally, such as one to many **parent** to children **table relationship**, variable length record and length field and a rich set of data management functionality. The paper considers collection object type design in a multidimensional DBMS data model. It presents database terms used between a **relational** DBMS, a multidimensional DBMS and an object oriented DBMS. The benefits, management and optimisation of the multidimensional DBMS are presented. The paper also presents discussions on class management, inheritance mapping, object management and implementation of object collection. It suggests improvements to the object collection implementation and continues work on distributed object management utilising a multidimensional DBMS. (4 Refs)

Subfile: C

Descriptors: data structures; distributed databases; object-oriented databases; **relational** databases

Identifiers: object collection management; multidimensional database; data model; nested **relational** database; one to many relationship; parent to children relationship; variable length record; variable length field; data management; object oriented database; optimisation; class management; inheritance mapping; object management

Class Codes: C6160D (Relational databases); C6160J (Object-oriented databases); C6160B (Distributed databases)

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20/5/28 (Item 7 from file: 2)

DIALOG(R) File 2:INSPEC

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5502571 INSPEC Abstract Number: C9704-4260-001

Title: Connecting the maximum number of nodes in the grid to the boundary with nonintersecting line segments

Author(s): Palios, L.

Author Affiliation: Geometry Center, Minnesota Univ., Minneapolis, MN, USA

Journal: Journal of Algorithms vol.22, no.1 p.57-92

Publisher: Academic Press,

Publication Date: Jan. 1997 Country of Publication: USA

CODEN: JOALDV ISSN: 0196-6774

SICI: 0196-6774(199701)22:1L:57:CMNN;1-F

Material Identity Number: A733-97001

U.S. Copyright Clearance Center Code: 0196-6774/97/\$25.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Given a finite set S of nodes in a rectangular grid, we consider the problem of finding the maximum size subset of S such that the **nodes** in the subset can be **connected** to the boundary of the **grid** by means of nonintersecting line segments parallel to the grid axes. The work is motivated from the VLSI/WSI array processor technology, and in particular, the single-track switch model for configurable array processors (S.Y. King et al., (1989)). The problem has been investigated by Bruck and Roychowdhury (1991), who described an algorithm to find the maximum number of compatible **connections** of n given **nodes** in the **grid** in $O(n/\sup 3/)$ time and $O(n/\sup 2/)$ space. In this paper, we improve their result by describing an $O(n/\sup 2/ \log n)$ time and $O(n/\sup 2/)$ space algorithm; instrumental in this improvement is the introduction of a new type of priority search **trees** which is of interest in its own right. Finally, we extend the algorithm to handle the additional constraint that near-misses are disallowed; this is the first algorithm to resolve this case, and, like the general algorithm, it runs in $O(n/\sup 2/ \log n)$ time and requires $O(n/\sup 2/)$ space. (10 Refs)

Subfile: C

Descriptors: computational complexity; computational geometry

Identifiers: nonintersecting line segments; rectangular grid; maximum number of nodes; array processor technology; $O(n/\sup 2/ \log n)$ time; $O(n/\sup 2/)$ space; priority search **trees**; near-misses

Class Codes: C4260 (Computational geometry); C4240C (Computational complexity)

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20/5/29 (Item 8 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5202075 INSPEC Abstract Number: C9604-6150C-033

Title: **The ADDAP system on the iPSC/860: automatic data distribution and parallelization**

Author(s): Dierstein, A.; Hayer, R.; Rauber, T.

Author Affiliation: Dept. of Comput. Sci., Saarlandes Univ., Saarbrucken, Germany

Journal: Journal of Parallel and Distributed Computing vol.32, no.1
p.1-10

Publisher: Academic Press,

Publication Date: 10 Jan. 1996 Country of Publication: USA

CODEN: JPD CER ISSN: 0743-7315

SICI: 0743-7315(19960110)32:1L:1:ASIA;1-N

Material Identity Number: G544-96001

U.S. Copyright Clearance Center Code: 0743-7315/96/\$12.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: The paper describes the ADDAP system-a parallelizing compiler for distributed memory MIMD machines that automatically computes a data distribution for the arrays of the source program by a branch-and-bound algorithm and parallelizes the inner loops of the program by inserting the necessary communication statements to access nonlocal array sections. The branch-and-bound algorithm incrementally constructs paths in a decision **tree** where each **node** on a path **corresponds** to the distribution of an **array** of the source program. For each path, a communication analysis tool computes the corresponding communication costs. Based on these costs, the data distribution algorithm tries to find the best data distribution by searching for the cheapest path from a leaf to the root of the decision **tree**. By rejecting expensive paths as early as possible, the algorithm actually builds only a few paths, corresponding to a small fraction of the decision **tree**. Therefore, the runtime of the data distribution phase remains quite small also for larger input programs. The structure of the algorithm makes it easy to allow redistributions during program execution. The communication analysis tool computes the communication costs of a data distribution by determining the number and size of the messages that each processor has to receive during program execution. The tool also takes

sequentializations into account that are caused by data dependencies. A prototype implementation of the system generates code for an Intel iPSC/860. (21 Refs)

Subfile: C

Descriptors: automatic programming; decision theory; distributed memory systems; message passing; parallel algorithms; parallel machines; parallel programming; parallelising compilers; **tree** data structures

Identifiers: ADDAP system; parallelizing compiler; distributed memory MIMD machines; automatic data distribution computation; source program arrays; branch-and-bound algorithm; Intel iPSC/860; automatic data distribution; inner loops; communication statements; access nonlocal array sections; incrementally constructs paths; decision **tree**; communication analysis tool; communication costs; cheapest path search; data distribution phase runtime; redistributions; program execution; messages; sequentializations; data dependencies

Class Codes: C6150C (Compilers, interpreters and other processors); C5440 (Multiprocessing systems); C6150N (Distributed systems software); C6110P (Parallel programming); C1140E (Game theory); C6115 (Programming support); C6120 (File organisation)

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20/5/32 (Item 11 from file: 2)

DIALOG(R) File 2:INSPEC

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4596298 INSPEC Abstract Number: B9403-4180-028, C9403-5270-025

Title: Tandem D-STOP architecture for error backpropagation networks

Author(s): Marsden, G.C.; Krishnamoorthy, A.V.; Merckle, J.; Esener, S.C.

Author Affiliation: Dept. of Electr. Comput. Eng., California Univ., San Diego, La Jolla, CA, USA

Conference Title: Optical Computing. Summaries of Papers Presented at the Optical Computing Topical Meeting. 1993 Technical Digest Vol.7. Postconference Edition p.144-7

Publisher: Opt. Soc. America, Washington, DC, USA

Publication Date: 1993 Country of Publication: USA x+347 pp.

Conference Sponsor: OSA

Conference Date: 16-19 March 1993 Conference Location: Palm Springs, CA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The Dual-Scale Topology Optoelectronic Processor (D-STOP) is a fully parallel optoelectronic architecture designed for matrix algebraic processing, which uses a minimum number of optical transmitters while maintaining area efficient electronics and simple, space-invariant optical interconnects. For an $M \times N$ matrix problem size, the architecture consists of M processing elements (PEs), one for each row of the matrix. Within each PE is an electronic binary **tree** structure with processing subunits at each node. Each PE has N **leaf** units which **correspond** to the **matrix** elements within the given row. Each leaf unit has an optical detector, as well as local memory, logic circuitry, and electronic I/O to the **tree** structure. At the root of the **tree** is the root unit, which in addition to local memory, logic and electronic I/O has an optical transmitter for data output. Each PE receives a copy of the optical input vector, with each leaf receiving one of the N elements of this input vector. (4 Refs)

Subfile: B C

Descriptors: backpropagation; integrated optoelectronics; matrix algebra; network topology; optical neural nets; parallel architectures; **trees** (mathematics)

Identifiers: tandem D-STOP architecture; error backpropagation networks; Dual-Scale Topology Optoelectronic Processor; parallel optoelectronic architecture; matrix algebraic processing; optical transmitters; area efficient electronics; space-invariant optical interconnects; electronic binary **tree** structure; processing subunits; optical detector; local memory; logic circuitry; electronic I/O; optical input vector

Class Codes: B4180 (Optical logic devices and optical computing techniques); B1295 (Neural nets); B1110 (Network topology); C5270 (Optical computing techniques); C5290 (Neural computing techniques); C5220P

(Parallel architecture)

20/5/34 (Item 13 from file: 2)

DIALOG(R)File 2:INSPEC

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03900904 INSPEC Abstract Number: C91040790

Title: Ramification matrices of binary trees

Author(s): Penaud, J.G.

Journal: Discrete Applied Mathematics vol.31, no.1 p.1-21

Publication Date: March 1991 Country of Publication: Netherlands

CODEN: DAMADU ISSN: 0166-218X

U.S. Copyright Clearance Center Code: 0166-218X/91/\$03.50

Language: French Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: A Strahler number is **associated** with each **node** of a binary **tree**. Then, a ramification **matrix**, reflecting the distribution of the Strahler numbers, is constructed. This notion is extended to the family of binary **trees** having given size and the asymptotic behaviour of this matrix is shown. (17 Refs)

Subfile: C

Descriptors: matrix algebra; **trees** (mathematics)

Identifiers: binary **trees**; node; ramification matrix; asymptotic behaviour

Class Codes: C4140 (Linear algebra); C1160 (Combinatorial mathematics); C1110 (Algebra)

20/5/36 (Item 15 from file: 2)

DIALOG(R)File 2:INSPEC

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03488838 INSPEC Abstract Number: C89066691

Title: Automatically replacing indices into parallel arrays with pointers to records

Author(s): Jokinen, M.O.

Author Affiliation: Dept. of Comput. Sci., Turku Univ., Finland

Journal: BIT vol.29, no.2 p.227-38

Publication Date: 1989 Country of Publication: Denmark

CODEN: BITTEL ISSN: 0006-3835

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: In older languages lists, **trees** and graphs are represented with sets of **arrays** where indices of elements **corresponds** to pointers to the **nodes** of the data structure. The author presents an algorithm that replaces such arrays with objects allocated dynamically from the heap, and indices with true pointers. Generated pointers are strongly typed and elements of logically related arrays are combined into records. The algorithm is potentially useful, especially in automatic translation between high-level programming languages. (21 Refs)

Subfile: C

Descriptors: algorithm theory; data structures

Identifiers: parallel arrays; pointers to records; lists; **trees**; graphs; data structure; pointers

Class Codes: C4240 (Programming and algorithm theory); C6120 (File organisation)

20/5/38 (Item 17 from file: 2)

DIALOG(R)File 2:INSPEC

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02625444 INSPEC Abstract Number: C86017969

Title: Structure sharing with binary trees

Author(s): Karttunen, L.; Kay, M.

Author Affiliation: SRI Int., Stanford, CA, USA

Conference Title: 23rd Annual Meeting of the Association for

Computational Linguistics. Proceedings of the Conference p.133-64
Publisher: Assoc. Comput. Linguistics, Morristown, NJ, USA
Publication Date: 1985 Country of Publication: USA x+332 pp.
Conference Date: 8-12 July 1985 Conference Location: Chicago, IL, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: Many current interfaces for natural language represent syntactic and semantic information in the form of directed graphs where attributes **correspond** to vectors and values to **nodes**. There is a simple **correspondence** between such graphs and the **matrix** notation linguists traditionally used for feature sets. The standard operation for working with such graphs is unification. The unification operation succeeds only on a pair of compatible graphs, and its result is a graph containing the information in both contributors. When a parser applies a syntactic rule, it unifies selected features of input constituents to check constraints and to build a representation for the output constituent. (0 Refs)
Subfile: C
Descriptors: computational linguistics; graph theory; natural languages; **trees** (mathematics)
Identifiers: structure sharing; syntactic information; natural language interfaces; binary **trees**; semantic information; graphs; matrix notation linguists; feature sets; unification
Class Codes: C1160 (Combinatorial mathematics); C4290 (Other computer theory)

20/5/40 (Item 19 from file: 2)
DIALOG(R)File 2:INSPEC
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01591850 INSPEC Abstract Number: C80032935

Title: The left uniform binary search
Author(s): Saillard, J.-C.
Journal: RAIRO Informatique vol.14, no.2 p.165-83
Publication Date: 1980 Country of Publication: France
CODEN: RSINDN ISSN: 0399-0532
Language: French Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: Binary search in an ordered table is studied, when searching for a value, for any value, leads to one external **node** of the **corresponding** binary **tree**, when the value does not belong to the **table**, or when the value is in the table and the searching is using the following scheme if CLE<KEY (i) then left subtree else right subtree. For this searching, a new algorithm is presented, called Left Uniform Binary Search. It is uniform just after a left edge is taken. The algorithm has a better computing time than UBS and SHAR algorithms. The analysis of the corresponding binary **trees** will prove this result. (2 Refs)
Subfile: C
Descriptors: table lookup; **trees** (mathematics)
Identifiers: left uniform binary search; ordered table; binary **tree**; computing time; UBS; SHAR; table lookup
Class Codes: C6120 (File organisation)

20/5/47 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS
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2038739 NTIS Accession Number: N19970021350/XAB

Hierarchical and Parallelizable Direct Volume Rendering for Irregular and Multiple Grids
Wilhelms, J. ; VanGelder, A. ; Tarantino, P. ; Gibbs, J.
California Univ., Santa Cruz.
Corp. Source Codes: 005496000; CD504424
Sponsor: National Aeronautics and Space Administration, Washington, DC.; National Science Foundation, Washington, DC.
Report No.: NAS 1.26:204765; NASA-CR-204765
1 Jan 96 9p

Languages: English

Journal Announcement: GRAI9803; STAR3507

Partially funded by Grants NSF CDA-91-15268.

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NTIS Prices: PC A02/MF A01

Country of Publication: United States

Contract No.: NAG2-991; NSF CCR-95-03829

A general volume rendering technique is described that efficiently produces images of excellent quality from data defined over irregular grids having a wide variety of formats. Rendering is done in software, eliminating the need for special graphics hardware, as well as any artifacts associated with graphics hardware. Images of volumes with about one million cells can be produced in one to several minutes on a workstation with a 150 MHz processor. A significant advantage of this method for applications such as computational fluid dynamics is that it can process multiple intersecting grids. Such grids present problems for most current volume rendering techniques. Also, the wide range of cell sizes (by a factor of 10,000 or more), which is typical of such applications, does not present difficulties, as it does for many techniques. A spatial **hierarchical** organization makes it possible to access data from a restricted region efficiently. The **tree** has greater depth in regions of greater detail, determined by the number of cells in the region. It also makes it possible to render useful 'preview' images very quickly (about one second for one-million-cell **grids**) by displaying each region **associated** with a **tree node** as one cell. Previews show enough detail to navigate effectively in very large data sets. The algorithmic techniques include use of a kappa-d **tree**, with prefix-order partitioning of triangles, to reduce the number of primitives that must be processed for one rendering, coarse-grain parallelism for a shared-memory MIMD architecture, a new perspective transformation that achieves greater numerical accuracy, and a scanline algorithm with depth sorting and a new clipping technique.

Descriptors: *Computational grids; *Architecture(Computers);
*Computational fluid dynamics; *Workstations; *Memory(Computers);
Mimd(Computers); Algorithms; Accuracy

Identifiers: NTISNASA

Section Headings: 62A (Computers, Control, and Information
Theory--Computer Hardware)

20/5/51 (Item 3 from file: 144)

DIALOG(R)File 144:Pascal

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11159040 PASCAL No.: 93-0668247

Diamond deque: A simple data structure for priority dequeues

CHANG S C; DU M W

GET Laboratories Incorp., computer intelligent systems lab., Waltham MA
02254, USA

Journal: Information processing letters, 1993, 46 (5) 231-237

ISSN: 0020-0190 CODEN: IFPLAT Availability: INIST-15156;

354000034924030040

No. of Refs.: 8 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

A simple pointer-free data structure is proposed to implement priority dequeues. The two heaps (a min-heap and a max-heap) of a twin-heap are stored in one linear **array**. The simple **parent - child relationship** of a traditional heap is retained. The min-heap and the max-heap will jointly grow and shrink at one end of the linear array. The proposed data structure is named a diamond deque because of the diamond shape of its Hasse diagram. Priority deque operations on a diamond deque are as efficient as on a twin-heap, a min-max heap, or a deap. Because a diamond deque is highly symmetrical, its interface relations between min-heap and max-heap are simpler. This makes it easier to implement in practice

English Descriptors: Data structure; Binary **tree** ; Programming;
Programming theory

French Descriptors: Structure donnee; Arbre binaire; Programmation; Theorie
programmation

Classification Codes: 001D02A07

20/5/59 (Item 5 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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00914791 Genuine Article#: FF465 Number of References: 17

Title: RAMIFICATION MATRIX OF BINARY- TREES

Author(s): PENAUD JG

Corporate Source: UNIV BORDEAUX 1, LABRI/F-33405 TALENCE//FRANCE/

Journal: DISCRETE APPLIED MATHEMATICS, 1991, V31, N1, P1-21

Language: FRENCH Document Type: ARTICLE

Geographic Location: FRANCE

Subfile: SciSearch; CC PHYS--Current Contents, Physical, Chemical & Earth
Sciences

Journal Subject Category: MATHEMATICS, APPLIED

Abstract: A Strahler number is **associated** with each **node** of a binary
tree . Then, a ramification **matrix** , reflecting the distribution of
the Strahler numbers, is constructed. This notion is extended to the
family of binary **trees** having given size and the asymptotic behaviour
of this matrix is shown.

Identifiers--KeyWords Plus: AVERAGE

Research Fronts: 89-0105 001 (STREAM NETWORKS; DRAINAGE PATTERNS; VISCOUS
FINGERING CLUSTERS; FRACTAL FLOW; GRAVEL CHANNELS; ARCTIC ALASKA)

Cited References:

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FRANCON J, 1984, V18, P335, RAIRO INFORM THEOR A
HORTON RE, 1945, V56, P275, GEOL SOC AM BULL
KEMP R, 1979, V11, P363, ACTA INFORM
KNUTH DE, 1968, ARD COMPUTER PROGRAM
KREWERAS G, 1970, V15, P1, CAHIERS BUR
MEIR A, 1980, V1, P25, SIAM J ALGEBRAIC DIS
SCHUTZENBERGER MP, 1962, P139, P S MATH THEORY AUTO
STRAHLER AN, 1952, V63, P1117, GEOL SOC AM BULL
VANNIMENUS J, 1989, V54, P1529, J STAT PHYS
VIENNOT XG, 1989, MELANGES
VIENNOT XG, 1989, P SIGGRAPH 89 BOSTON

22/5/6 (Item 6 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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03404148 E.I. Monthly No: EI9204045502

Title: Approach to the construction of the complex objects based on relational model.

Author: Tian, Canghai; Lin, Junhai

Corporate Source: Dept of Computer Science and Engineering

Source: Journal of Nanjing Aeronautical Institute (English Edition) v 7 n 1 Oct 1990 p 103-107

Publication Year: 1990

CODEN: JNAIEG

Language: English

Document Type: JA; (Journal Article) **Treatment:** A; (Applications); T; (Theoretical)

Journal Announcement: 9204

Abstract: Based on the relational model, an approach to constituting complex objects is proposed in this paper. It is easy and efficient to define, update and generate complex objects such as nested tables, graphics and screen forms etc. by building a relationship between data dictionaries of complex objects and relations. (Author abstract) 4 Refs.

Descriptors: DATABASE SYSTEMS--* Relational ; DATA PROCESSING--Data Reduction and Analysis; COMPUTER AIDED DESIGN--Research; COMPUTER PROGRAMMING--Algorithms

Identifiers: COMPLEX OBJECT CONSTRUCTION; NESTED TABLES

Classification Codes:

723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

22/5/7 (Item 7 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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03307165 E.I. Monthly No: EI9110118070

Title: Object subclass hierarchy in SQL. A simple approach.

Author: Kung, Chenho

Source: Communications of the ACM v 33 n 7 Jul 1990 p 117-125

Publication Year: 1990

CODEN: CACMA2 **ISSN:** 0001-0782

Language: English

Document Type: JA; (Journal Article) **Treatment:** A; (Applications)

Journal Announcement: 9110

Abstract: The Object Subclass Hierarchy (OSH) is a way to model properly and behavior inheritance. It can be implemented on a relational database using views. OSH can then be translated into Structured Query Language (SQL). OSH first classifies real-world objects into object classes and subclasses. Relationships between object classes are then modeled by a relationship object class. The OSH is transformed into a set of base tables and views. This requires modification of some queries. In general, implementation of OSH in SQL provides an object oriented view of data at the expense of affecting retrieval performance.

Descriptors: COMPUTER PROGRAMMING--* Object Oriented Programming; DATABASE SYSTEMS--Relational ; COMPUTER SOFTWARE--Design; INFORMATION RETRIEVAL SYSTEMS--Design

Identifiers: DATABASE CONSTRAINTS; STRUCTURED QUERY LANGUAGE (SQL); DATABASE VIEW MECHANISMS; OBJECT MODELING TECHNIQUE (OMT); OBJECT SUBCLASS HIERARCHY (OSH); DATABASE DESIGN

Classification Codes:

723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

22/5/8 (Item 8 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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02997496 E.I. Monthly No: EI9012138783

Title: A G-net model for knowledge representation and reasoning.

Author: Deng, Yi; Chang, Shi-Kuo

Corporate Source: Dept of Comput Sci, Univ of Pittsburgh, PA, USA

Source: IEEE Transactions on Knowledge and Data Engineering v 2 n 3 Sep 1990 p 295-310

Publication Year: 1990

CODEN: ITKEEH ISSN: 1041-4347

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9012

Abstract: The G-net model for G-type knowledge representation is introduced. It is capable of modeling both static semantic knowledge and dynamic control knowledge, combining them into a loosely coupled, mixed-type knowledge **hierarchy**. Four reasoning algorithms for the G-net model are proposed: inheritance reasoning and recognition reasoning for semantic knowledge, event-driven reasoning for dynamic knowledge, and control table reasoning for coordination and control in a mixed-type knowledge **hierarchy**. Based on the knowledge-**table** representation, the G-net model expresses the constraints and **relationships** among knowledge **objects** explicitly so that reasoning algorithms can be implemented efficiently. Applications to information systems prototyping are discussed. 18 Refs.

Descriptors: *COMPUTER PROGRAMMING--*Algorithms; ARTIFICIAL INTELLIGENCE; MATHEMATICAL MODELS

Identifiers: KNOWLEDGE REPRESENTATION; G-NET MODEL; REASONING ALGORITHMS; INFORMATION SYSTEMS PROTOTYPING; PETRI NET MODELS

Classification Codes:

723 (Computer Software); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

22/5/9 (Item 9 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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02960374 E.I. Monthly No: EIM9009-039850

Title: NF2 relations and complex objects for model management systems.**

Author: Moser, Kathleen A.; Ramirez, Richard G.; St. Louis, Robert D.

Corporate Source: Arizona State Univ, Dep of Decision Inf Syst, Tempe, AZ, USA

Conference Title: Proceedings of the Twenty-Third Annual Hawaii International Conference on System Sciences. Volume 2: Software Track

Conference Location: Kailua-Kona, HI, USA Conference Date: 19900102

Sponsor: Univ of Hawaii, Honolulu, HI, USA; ACM, New York, NY, USA; IEEE Computer Soc, Los Alamitos, CA, USA; Pacific Research Inst for Information Systems & Management (PRIISM)

E.I. Conference No.: 13436

Source: Proceedings of the Hawaii International Conference on System Science v 2. Publ by Western Periodicals Co, North Hollywood, CA, USA. Available from IEEE Service Cent (cat n 90TH0294-9), Piscataway, NJ, USA. p 328-337

Publication Year: 1990

CODEN: PHISD7 ISSN: 0073-1129 ISBN: 0-8186-2009-9

Language: English

Document Type: PA; (Conference Paper) Treatment: T; (Theoretical); M; (Management Aspects)

Journal Announcement: 9009

Abstract: An SQL-based system is described that supports complex **objects**, nonnormalized **2) **relations**, **arrays**, **matrices**, ordered lists, and versions. Both **object**-oriented and data views of a **relational** database are supported. The system supports the integration of OR/MS (operations research and management science) modeling with corporate databases. It is part of the ASUMMS model management system. The data subsystem includes a full-fledged commercial database system. Integration and compatibility allow pure database applications (e.g., invoices and customer payments) running on 1NF databases to be processed concurrently with quantitative

modeling tasks on the same data. The NF**2 and complex **object** extensions provide for a common data model for data and models, and the implementation architecture supports both 1NF and NF**2 database management systems. 23 Refs.

Descriptors: DATABASE SYSTEMS--* **Relational** ; MANAGEMENT SCIENCE; OPERATIONS RESEARCH; MATHEMATICAL TECHNIQUES--Matrix Algebra
Identifiers: COMPLEX **OBJECTS** ; MODEL MANAGEMENT SYSTEMS
Classification Codes:
723 (Computer Software); 912 (Industrial Engineering & Management); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 91 (ENGINEERING MANAGEMENT); 92 (ENGINEERING MATHEMATICS)

22/5/10 (Item 10 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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02117085 E.I. Monthly No: EIM8609-059828
Title: VISUAL TOOL FOR MANAGING RELATIONAL DATABASES.
Author: Benjamin, Arthur J.; Lew, Karl M.
Corporate Source: Metaphor Computer Systems, Mountain View, CA, USA
Conference Title: International Conference on Data Engineering.
Conference Location: Los Angeles, CA, USA Conference Date: 19860205
Sponsor: IEEE Computer Soc, Los Alamitos, CA, USA
E.I. Conference No.: 08298
Source: Publ by IEEE, New York, NY, USA. Available from IEEE Service Cent (Cat n 86CH2261-6), Piscataway, NJ, USA p 661-668
Publication Year: 1986
ISBN: 0-8186-0655-X
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8609
Abstract: Although the **relational** approach to databases has been revolutionary in terms of the conceptual simplicity it affords when designing database schemas and their attendant applications, the task of implementing and managing a **relational** database is still a burden for the database administrator. In particular: 1) communication with the database system is usually restricted to primitive, teletype interfaces, 2) abstractions used by the DBA are not inherently supported by existing database systems, and 3) there are no safeguards against inadvertent catastrophic data dictionary modification. The Metaphor DBA tool addresses these issues by providing a visual interface to the database data dictionary. It is a specialized editor for the abstractions familiar to the DBA. Categories (i. e. collections of **tables**), **tables** , and columns have specific screen depictions; **relationships** between **objects** are established by lines drawn between them. The DBA can create, modify, and display the structure of the database by manipulating these graphical **objects** . 4 refs.

Descriptors: DATABASE SYSTEMS--* **Relational** ; COMPUTER INTERFACES
Identifiers: DATABASE SCHEMA DESIGN; VISUAL INTERFACE; DATA DICTIONARIES
Classification Codes:
723 (Computer Software); 722 (Computer Hardware)
72 (COMPUTERS & DATA PROCESSING)

22/5/16 (Item 1 from file: 2)
DIALOG(R) File 2: INSPEC
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6441446 INSPEC Abstract Number: C2000-01-6160D-020
Title: Discovering different kinds of patterns from large relational database using mutual association rules
Author(s): Ajaja, M.K.; Abdel-Wahab, A.H.; Shaheen, S.I.
Author Affiliation: Fac. of Eng., Cairo Univ., Egypt
Conference Title: Joint Conference on Intelligent Systems 1999 (JCIS'98)
Part vol.3 p.286-9 vol.3
Publisher: Assoc. for Intell. Machinery, USA

Publication Date: 1998 Country of Publication: USA 4 vol. 1921 pp.
ISBN: 0 9643456 7 6 Material Identity Number: XX-1999-02892
Conference Title: Proceedings of 6th International Conference on Fuzzy
Theory and Technology
Conference Sponsor: Assoc. for Intell. Machinery; Machine Intell. & Fuzzy
Logic Lab.; Elsevier Publishing Co.; Inf. Sci. Journal; US Army Res. Office
; Lab. for Intell. & Nonlinear Control; Duke Univ
Conference Date: 23-28 Oct. 1998 Conference Location: Research
Triangle Park, NC, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)

Abstract: Extracting association rules from large sets of data has become
an important data mining problem. Previously devised techniques can be used
for extracting these rules from either transaction data or flat **relational**
table. In reality, data is stored and managed by a suitable database
management system such as an **RDBMS**, thus it is useful to describe methods
for extracting knowledge from multiple **tables**. A query language is
proposed and implemented for discovering the **associations** from **data**
stored in multiple **relational tables** connected to each other via key
attributes (primary and foreign keys). The discovery task is directed by a
meta-knowledge query that refines the search for the required patterns.
Using the proposed method, previously defined patterns can be extracted
such as Boolean and quantitative association rules, as well as new kinds of
patterns that show the association among the properties of certain **objects**.
(11 Refs)

Subfile: C

Descriptors: Boolean algebra; data mining; query languages; **relational**
databases; very large databases

Identifiers: pattern discovery; large **relational** database; mutual
association rules; data mining; **RDBMS**; query language; multiple
relational tables; key attributes; meta-knowledge query; search; Boolean
association rules; quantitative association rules

Class Codes: C6160D (Relational databases); C6170K (Knowledge engineering
techniques); C6160Z (Other DBMS)

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22/5/17 (Item 2 from file: 2)

DIALOG(R) File 2:INSPEC

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6290317 INSPEC Abstract Number: C1999-08-6160D-002

Title: **Architecture of a universal database: a frame model approach**

Author(s): Fong, J.; Shi-Ming Huang

Author Affiliation: Dept. of Comput. Sci., City Univ. of Hong Kong,
Kowloon, Hong Kong

Journal: International Journal of Cooperative Information Systems
vol.8, no.1 p.47-82

Publisher: World Scientific,

Publication Date: March 1999 Country of Publication: Singapore

CODEN: IJCSFI ISSN: 0218-8430

SICI: 0218-8430(199903)8:1L.47:AUDF;1-K

Material Identity Number: E343-1999-003

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: RDB has been dominant in the industry for the last decade. OODB
is recognized as a post-**relational** technology that can improve
productivity. **Hierarchical** databases and network databases were popular
in the 1970s, and have been developed into legacy database systems. The
DBMS of various data models have proliferated into many companies, and
become their important assets. There is a need to integrate these database
systems into a data warehouse in the company. We investigate a solution to
the problem by offering an architecture of a universal database for the
connectivity of various DBMSs using different data models. A frame model is
chosen to represent the conceptual and logical schema of the universal
database, which structures an application domain into classes organized via
generalization, aggregation and user-defined **relationships**, and its **data**
in **relational tables**. The schemas of the existing database systems are

translated into frame model conceptual schemas which are integrated into a global frame model in a knowledge representation that includes classes for **object** structure descriptions and constraints for supporting user-defined relationships. The universal database is implemented by a **relational** DBMS as a kernel. (16 Refs)

Subfile: C

Descriptors: business data processing; data models; data warehouses; **relational** databases; software architecture

Identifiers: universal database architecture; frame model approach; **object** oriented database; **relational** database; **hierarchical** databases; network databases; legacy database; data models; companies; data warehouse; conceptual schema; logical schema; knowledge representation

Class Codes: C6160D (Relational databases); C6160Z (Other DBMS); C6120 (File organisation)

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22/5/18 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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6104311 INSPEC Abstract Number: C9901-1230-050

Title: **Symmetrical circular preferential ordering**

Author(s): Gorkiewicz, M.

Author Affiliation: Jagiellonski Uniwersytet, Krakow, Poland

Conference Title: Inzynieria Wiedzy I Systemy Ekspertowe (Knowledge Engineering and Expert Systems) Part vol.1 p.89-96 vol.1

Editor(s): Bubnickiego, Z.; Grzecha, A.

Publisher: Oficyna Wydawnicza Politech. Wroclawskiej, Wroclaw, Poland

Publication Date: 1997 Country of Publication: Poland 2 vol. 363+408 pp.

ISBN: 83 7085 276 9 Material Identity Number: XX98-02842

Conference Title: Inzynieria Wiedzy I Systemy Ekspertowe (Knowledge Engineering and Expert Systems)

Conference Date: 10-12 June 1997 Conference Location: Wroclaw, Poland

Availability: Oficyna Wydawnicza Politechniki Wroclawskiej, Wybrzeze Wyspianskiego 27, 50-370 Wroclaw, Poland

Language: Polish Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Context-free and uniform modelling of a preferential system $\{S, R, A\}$ on the base of a given matrix A with, maybe, some vicious circles inside, is considered, where: $S = \{s_{1/}, s_{2/}, \dots, s_{N/}\}$ set of N separate **objects**; $R = \{-1, 0, +1\}$ set of relation types; $A = (a_{ij/})$ **matrix** of **relations** between **objects** $s_{i/}, s_{j/}$ in S ; and relations R are reflexive, asymmetrical and, maybe, intransitive. All $\sim N^2/2$ informative relations from matrix A are exactly expressed with $\sim N$ connections in a **hierarchical** digraph, due to the conceptions of semi-transitivity and circular ordering introduced. The procedures of the identification processes are described and some results for $N=5$ are presented. The method ought to make it easier for a human to perceive systems of own or expert preferences. (14 Refs)

Subfile: C

Descriptors: directed graphs; expert systems

Identifiers: symmetrical circular preferential ordering; context-free modelling; matrix; vicious circles; reflexive relations; intransitive relations; informative relations; **hierarchical** digraph; semi-transitivity; identification processes; expert systems

Class Codes: C1230 (Artificial intelligence); C1160 (Combinatorial mathematics)

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22/5/19 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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5818157 INSPEC Abstract Number: C9803-4250-011

Title: **A matrix- relational data model for information representation and**

processing in computer-aided monitoring and management systems

Author(s): Kovtun, I.I.

Author Affiliation: Dept. of Autom. & Intellectualization of Manage.
Process., Moscow State Inst. of Electron. & Math., Russia

Journal: Programmirovaniye vol.23, no.6

Publisher: MAIK Nauka/Interperiodica Publishing,

Publication Date: Nov.-Dec. 1997 Country of Publication: Russia

CODEN: PROGD3 ISSN: 0132-3474

Material Identity Number: F179-98001

Translated in: Programming and Computer Software vol.23, no.6 p.
331-41

Publication Date: Nov.-Dec. 1997 Country of Publication: Russia

CODEN: PCSODA ISSN: 0361-7688

SICI of Translation: 0361-7688(199711/12)23:6L:331:MRDM;1-5

U.S. Copyright Clearance Center Code: 0361-7688/97/2306-0331\$18.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P); Theoretical (T)

Abstract: Although the **relational** approach to data organization is highly advantageous, it should be noted that many problems arise in work with complex organizational and manufacturing systems. One such problem is that relations of the one-to-one, one-to-many and many-to-many types between **objects** of different types cannot be modeled effectively. It is necessary to develop a data model to combine the advantages of a **relational** data model with the advantages of physical data organization in network and **hierarchical** models. The main tool is a **relational** data model. **Data** that provide the **relationship** between two **tables** are represented as a **matrix**, the number of rows (columns) of which is equal to the number of tuples in the first table, and the number of columns (rows) is equal to the number of tuples in the second table. If there is a relationship between a pair of tuples from two tables, then the corresponding entry of the matrix contains one; otherwise, it contains zero. If the relationship is of the many-to-many type, then the matrix fill-in is arbitrary. If the relationship is of the one-to-many type, any row (column) may not contain more than one unity. In the case of the one-to-one type, any row and any column of the matrix may not contain more than one unity. The proposed models and methods of data organization and processing were used in the design and programming of manufacturing-information monitoring and management systems. (11 Refs)

Subfile: C

Descriptors: computerised monitoring; data structures; database theory; manufacturing data processing; matrix algebra; **relational** algebra; **relational** databases

Identifiers: matrix- **relational** data model; information representation; information processing; computer-aided monitoring systems; computer-aided management systems; data organization; complex organizational systems; manufacturing systems; one-to-one relations; one-to-many relations; many-to-many relations; tuples; programming

Class Codes: C4250 (Database theory); C6160D (Relational databases); C1110 (Algebra); C6120 (File organisation); C7160 (Manufacturing and industrial administration)

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22/5/21 (Item 6 from file: 2)

DIALOG(R) File 2:INSPEC

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5665806 INSPEC Abstract Number: C9709-6170K-059

Title: Searching for relational patterns in data

Author(s): Sinh Hoa Nguyen; Skowron, A.

Author Affiliation: Inst. of Math., Warsaw Univ., Poland

Conference Title: Principles of Data Mining and Knowledge Discovery.
First European Symposium, PKDD '97. Proceedings p.265-76

Editor(s): Komorowski, J.; Zytkow, J.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1997 Country of Publication: Germany ix+396 pp.

ISBN: 3 540 63223 9 Material Identity Number: XX97-01603

Conference Title: Principles of Data Mining and Knowledge Discovery.

First European Symposium, PKDD '97. Proceedings

Conference Sponsor: Dept. Comput. Inf. Sci.; Norwegian Res. Council;
Norwegian Artificial Intelligence Soc

Conference Date: 24-27 June 1997 Conference Location: Trondheim,
Norway

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: We consider several basic classes of tolerance relations among **objects**. These (global) relations are defined from some predefined similarity measures on values of attributes. A tolerance relation in a given class of tolerance relations is optimal with respect to a given decision table A if it contains only pairs of **objects** with the same decision and the number of such pairs contained in the relation is maximal among all relations from the class. We present a method for (sub-)optimal tolerance **relation** learning from **data** (decision **table**). The presented method is based on a rough set approach. We show that for some basic families of tolerance relations, this problem can be transformed to a relative geometrical problem in a real affine space. Hence geometrical computations are becoming useful tools for solving the problem of global tolerance relation construction. The complexity of considered problems can be evaluated by the complexity of the corresponding geometrical problems. We propose some efficient heuristics searching for an approximation of optimal tolerance relations in considered families of tolerance relations. The global tolerance relations can be treated as patterns in the cartesian product of the **object** set. We show how to apply the **relational** patterns (global tolerance relations) in clustering and classification of **objects**.

(17 Refs)

Subfile: C

Descriptors: deductive databases; fuzzy set theory; knowledge acquisition
; pattern classification; **relational** databases; search problems

Identifiers: **relational** pattern searching; cartesian product; **object**
set; predefined similarity measures; **relational** patterns; decision table;
rough set approach; relative geometrical problem; real affine space;
geometrical computations; global tolerance relation construction;
geometrical problems; heuristics searching; global tolerance relations;
optimal tolerance relations; **object** clustering; **object** classification

Class Codes: C6170K (Knowledge engineering techniques); C1160 (Combinatorial mathematics); C4250 (Database theory); C6160K (Deductive databases); C6160D (Relational databases); C1250 (Pattern recognition); C1180 (Optimisation techniques)

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22/5/23 (Item 8 from file: 2)

DIALOG(R)File 2:INSPEC

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5443079 INSPEC Abstract Number: C9701-6160D-008

Title: **Bridging the gap between C++ and relational databases**

Author(s): Hohenstein, U.

Author Affiliation: Corp. Res. & Dev., Siemens AG, Munich, Germany

Conference Title: ECOOP '96 - Object-Oriented Programming. 10th European
Conference. Proceedings p.398-420

Editor(s): Cointe, P.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1996 Country of Publication: Germany xi+501 pp.

ISBN: 3 540 61439 7 Material Identity Number: XX96-01897

Conference Title: ECOOP '96 - Object-Oriented Programming 10th European
Conference

Conference Sponsor: Johannes Kepler Univ. Linz; State Govern. Upper
Austria; Head Municipality of Linz

Conference Date: 8-12 July 1996 Conference Location: Linz, Austria

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: This work presents a new approach to access existing **relational** databases from C++ programs in an easy and natural way. The coupling of both worlds makes use of data reverse engineering techniques. Semantics that is inherent to **relational** data is made explicit by using

object -oriented concepts extensively. Relationships and subtypes are expressed directly in order to take great benefit of them. C++ application programs are thus given the ability to handle **relational** data as if they were C++ **objects** . The key to our approach is a powerful specification language that allows for defining **object** -oriented views, i.e., describing how **object** types, **relationships** between them, and subtype **hierarchies** are derived from **relational tables** . Even complex **relational** situations can be remodelled in an intuitive and concise manner. Given a concrete specification, a C++ database interface is generated preserving the **object** -oriented view for accessing **relational** data. Access methods are automatically implemented on top of the **relational** system. (27 Refs)

Subfile: C

Descriptors: C language; computational linguistics; data structures; information retrieval; **object** -oriented languages; **relational** databases; reverse engineering; specification languages; user interfaces

Identifiers: C++ programs; **relational** databases; reverse engineering; semantics; **object** -oriented concepts; database interface; specification language; subtype **hierarchies**

Class Codes: C6160D (Relational databases); C6140D (High level languages); C6110J (Object-oriented programming); C6115 (Programming support); C6120 (File organisation)

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22/5/25 (Item 10 from file: 2)

DIALOG(R) File 2:INSPEC

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4897986 INSPEC Abstract Number: C9504-6110J-030

Title: **Implementing associations between objects**

Author(s): Mayes, A.; Dickerson, B.; Britton, C.

Author Affiliation: Sch. of Inf. Sci., Hertfordshire Univ., Hatfield, UK

Journal: Microprocessing & Microprogramming vol.40, no.10-12 p. 811-14

Publication Date: Dec. 1994 Country of Publication: Netherlands

CODEN: MMICDT ISSN: 0165-6074

U.S. Copyright Clearance Center Code: 0165-6074/94/\$07.00

Conference Title: 20th Annual Euromicro Conference. System Architecture and Integration

Conference Date: Sept. 1994 Conference Location: Liverpool, UK

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P)

Abstract: The paper presents an alternative design method for the implementation of conceptual associations identified during the analysis of a problem. The design method allows conceptual associations from the analysis model to be implemented directly by using sociable classes. These sociable classes have the ability to participate in associations without the addition of attributes. Conceptual associations are provided as instances of generic classes. New associations can be added as required by introducing a new instantiation of the required type of association to the system. It is not necessary to define new subclasses of the participating **objects** . The conceptual **associations** retain the **object** -oriented structure by storing the **associations** with the **objects** . **Relational tables** of **associations** are not added to the system. (4 Refs)

Subfile: C

Descriptors: abstract data types; client-server systems; **object** -oriented methods

Identifiers: conceptual associations; **objects** ; analysis model; sociable classes; generic classes; **object** -oriented structure

Class Codes: C6110J (Object-oriented programming); C6120 (File organisation)

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22/5/26 (Item 11 from file: 2)

DIALOG(R) File 2:INSPEC

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4864285 INSPEC Abstract Number: C9503-6160D-002

Title: Matrix relation for statistical database management

Author(s): Cicchetti, R.; Lakhal, L.

Author Affiliation: IUT, Aix-en-Provence, France

p.31-44

Editor(s): Jarke, M.; Bubenko, J.; Jeffrey, K.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1994 Country of Publication: West Germany xi+406

pp.

ISBN: 3 540 57818 8

Conference Title: 4th International Conference on Extending Database Technology

Conference Date: 28-31 March 1994 Conference Location: Cambridge, UK

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: One of the important issues of statistical database management is to define a data model and language for modeling and manipulating complex statistical summaries in the database. This paper proposes a matrix relation model and language for statistical database management. The **matrix relational data** structure combines **relation** and **matrix** organizations. It offers a natural and densely built-up representation of complex statistical summaries. It proposes new **objects** and constructors for statistical database organization. The matrix **relational** language is an algebraic query language, using an extended **relational** algebra. (29 Refs)

Subfile: C

Descriptors: data structures; query languages; **relational** algebra; **relational** databases; statistical databases

Identifiers: matrix relation model; statistical database management; data model; modelling language; complex statistical summaries; matrix **relational** data structure; relation organizations; matrix organizations; densely built-up representation; matrix **relational** language; algebraic query language; extended **relational** algebra

Class Codes: C6160D (Relational databases); C6120 (File organisation); C6140D (High level languages)

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22/5/33 (Item 18 from file: 2)

DIALOG(R)File 2:INSPEC

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02406669 INSPEC Abstract Number: C85015872

Title: Summary-Table-By-Example: a database query language for manipulating summary data

Author(s): Ozsoyoglu, Z.M.; Ozsoyoglu, G.

Author Affiliation: Dept. of Comput. Eng. & Sci., Case Western Reserve Univ., Cleveland, OH, USA

Conference Title: International Conference on Data Engineering (Catalog No. 84CH2031-3) p.193-202

Publisher: IEEE Comput. Soc. Press, Silver Spring, MD, USA

Publication Date: 1984 Country of Publication: USA xiii+630 pp.

ISBN: 0 8186 0533 2

U.S. Copyright Clearance Center Code: CH2031-3/84/0000-0193\$01.00

Conference Sponsor: IEEE

Conference Date: 24-27 April 1984 Conference Location: Los Angeles, CA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The authors introduce the notion of summary table and a high-level nonprocedural language. Summary-Table-By-Example (STBE), to manipulate summary data in databases. STBE is similar to Query-By-Example in that it uses graphical two-dimensional **objects** such as **relations** and summary **tables** in formulating a **relational** database query. it is an extension of the Aggregates-By-Example database language and may be used in general-purpose databases and statistical databases to extract and format summary data in a tabular form. It is believed to be user-friendly and

sufficiently powerful for such application areas as medical research, health planning, energy production and consumption, scientific experiments, political planning, and office automation. STBE is relationally complete, i.e. its expressive power is at least that of the **relational** calculus extended to allow set-valued attributes and aggregate functions. (17 Refs)

Subfile: C

Descriptors: query languages; **relational** databases

Identifiers: Summary-Table-By-Example; database query language; summary data; high-level nonprocedural language; relations; **relational** database; Aggregates-By-Example database language; statistical databases; medical research; health planning; energy production; consumption; scientific experiments; political planning; office automation

Class Codes: C6140D (High level languages); C6160D (Relational DBMS)

23/5/9 (Item 9 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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03905981 E.I. No: EIP94071348629

Title: Fuzzy document retrieval using hierarchically organized keywords and broader concepts

Author: Okuda, Kenzo; Minegishi, Norihiro; Nakanishi, Shigetoshi; Yamazaki, Katsuhiko

Corporate Source: Utsunomiya Univ, Utsunomiya, Jpn

Source: Systems and Computers in Japan v 24 n 11 1993. p 13-22

Publication Year: 1993

CODEN: SCJAEP ISSN: 0882-1666

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review); T; (Theoretical)

Journal Announcement: 9409W3

Abstract: The fuzzy set concept has been used to improve the performance of the document retrieval scheme. Doyle has applied the fuzzy set in conjunction with the keyword **connection matrix** (KCM) for **document** retrieval. The size of the KCM is proportional to the square of the number of keywords. This not only increases the storage and processing requirements, but also makes the updating of database for new documents more difficult. This paper proposes a new method based on **hierarchical** organization of keywords and broader concepts. The effectiveness of the proposed method is demonstrated through simulation and experiment. The evaluation of experimental results indicates that the **hierarchical** method requires a smaller memory space and shorter processing time than the conventional KCM method. (Author abstract) 16 Refs.

Descriptors: Information retrieval; Fuzzy sets; **Hierarchical** systems; Matrix algebra; Mathematical models; Data processing; Data storage equipment; Storage allocation (computer); Formal logic

Identifiers: Keyword **connection matrix**; **Document** retrieval

Classification Codes:

903.3 (Information Retrieval & Use); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory); 921.1 (Algebra); 723.2 (Data Processing); 722.1 (Data Storage, Equipment & Techniques); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory)

903 (Information Science); 921 (Applied Mathematics); 723 (Computer Software); 722 (Computer Hardware); 721 (Computer Circuits & Logic Elements)

90 (GENERAL ENGINEERING); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING)

23/5/12 (Item 12 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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02596468 E.I. Monthly No: EIM8806-035020

Title: VLSI TREES FOR FILE ORGANIZATION.

Author: Luccio, Fabrizio

Conference Title: Proceedings - Foundations of Data Organization.

Conference Location: Kyoto, Jpn Conference Date: 19850521

Sponsor: Japan Soc for the Promotion of Science, Jpn; IEEE Computer Soc, Los Alamitos, CA, USA; ACM, Special Interest Group for the Management of Data, New York, NY, USA Information Processing Soc of Japan, Jpn

E.I. Conference No.: 11234

Source: Publ by Organizing Committee of the Int Conference on Foundations of Data Organization, Jpn. Available from Kyoto Sangyo Univ, Computer Science Inst, Kyoto, Jpn p 209-217

Publication Year: 1985

Language: English

Document Type: PA; (Conference Paper)

Journal Announcement: 8806

Abstract: File organization is an important field for coming VLSI applications. VLSI **tree** architectures seem to be most suitable to store

and process files, in particular for dictionary and **relational** operations. Due to the vastness of this subject, our discussion is confined to a new VLSI structure called TOT (**Tree of Trees**). TOT has the form of a binary **tree** , whose nodes are in turn binary **trees** . It stores **tables** , treated as **relations** in the **data** base sense, and performs efficiently various input, output and dictionary operations, and a complete set of **relational** operations. General considerations on file processing in VLSI **trees** stem from this discussion. (Author abstract) 23 refs.

Descriptors: DATA PROCESSING--*File Organization; INTEGRATED CIRCUITS, VLSI; MATHEMATICAL TECHNIQUES-- **Trees** ; COMPUTER ARCHITECTURE

Identifiers: **TREE OF TREES** ; DICTIONARY OPERATIONS

Classification Codes:

723 (Computer Software); 714 (Electronic Components); 713 (Electronic Circuits); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS)

23/5/15 (Item 15 from file: 8)

DIALOG(R)File 8:EI Compendex(R)

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00745277 E.I. Monthly No: EI7809064312 E.I. Yearly No: EI78020729

Title: DATA STRUCTURE FOR FAST RELATIONAL ALGEBRA OPERATIONS.

Author: Furtado, A. L.; Brodie, Michael L.

Corporate Source: Pontif Univ Catol do Rio de Janeiro, Braz

Source: Proc Hawaii Int Conf Syst Sci 10th, Univ of Hawaii, Honolulu, Jan 6-7 1977. Publ by West Period Co, North Hollywood, Calif, 1977 p 95-97

Publication Year: 1977

CODEN: PHISD7 ISSN: 0073-1129

Language: ENGLISH

Journal Announcement: 7809

Abstract: A data structure for a **relational data** base is presented. **Relations** are stored as relation **tables** and a collection of inverted lists for attributes. A sorting algorithm is described which, using the data structure, sorts a relation in time essentially linear in the number of n-tuples in the relation. Fast execution of the sort-dominated **relational** algebra operations is achieved by using this algorithm. 8 refs.

Descriptors: *DATA PROCESSING--*Data Structures; DATA BASE SYSTEMS

Classification Codes:

723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

23/5/47 (Item 22 from file: 2)

DIALOG(R)File 2:INSPEC

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01862460 INSPEC Abstract Number: C82023288

Title: Dependencies in the relational model of data

Author(s): Czedli, G.

Author Affiliation: Jozsef Attila Tudomanyegyetem Bolyai Intezete, Szeged, Hungary

Journal: Alkalmazott Matematikai Lapok vol.6, no.1-2 p.131-43

Publication Date: 1980 Country of Publication: Hungary

CODEN: AMLAD8 ISSN: 0133-3399

Language: Hungarian Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: The **relational** model of data is one of the most promising tools for handling data. In this model the user's **data** are represented by **relationships** . A relationship can be visualized by a **matrix** whose columns and rows correspond to attributes and records, respectively. The author introduces three concepts of dependencies. Abstract characterizations for two of the concepts are also given. (5 Refs)

Subfile: C

Descriptors: data structures; database management systems

Identifiers: DBMS; data structures; dependencies; **relational** model of data; handling data; relationship; matrix; attributes; records

23/5/51 (Item 26 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

00052091 INSPEC Abstract Number: C69007826

Title: Hierarchical structure for data management

Author(s): Henry, W.R.

Journal: IBM Systems Journal vol.8, no.1 p.2-15

Publication Date: 1969 **Country of Publication:** USA

CODEN: IBMSA7 **ISSN:** 0018-8670

Language: English **Document Type:** Journal Paper (JP)

Abstract: Describes an approach to data management that is based on a **hierarchical** organization of the data management control function and makes use of list processing concepts. The separation of the logical and physical control functions are discussed, as well as the data-element and operating- system controls. This **hierarchical** approach establishes a common basis for the creation, maintenance, and retrieval of data in direct-access storage. Logical functions express the control and management of generalized physical data structure; the physical level typically includes strings for data retrieval and maintenance. Undirected graphs, and **matrices** derived from them, are given to illustrate the **data** management **relationships** within the physical level. The same type of analysis may be used to show relationships between the **hierarchical** levels. (12 Refs)

Subfile: C

Descriptors: data handling; data structures; file organisation; list processing; operating systems (computers); random-access storage

Class Codes: C6120 (File organisation); C6150J (Operating systems)

23/5/52 (Item 1 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

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00313265 93MD05-003

Framemed, a prototypical medical knowledge base of unusual design

Bishop, Charles W; **Ewing,** Peter D

M.D. Computing, May 1, 1993 , v10 n3 p184-192, 9 Page(s)

ISSN: 0724-6811

Languages: English

Document Type: Feature Articles and News

Geographic Location: United States

Describes a Framemed, prototype for an ideal medical knowledge system. Says that by constructing expert **hierarchical** lists for multiple medical domains and facilitating access to descriptive, **relational** , and conditional records for each item on a list, the system creates a meaningful framework for the storage of medical facts, relationships, and rules. Applications of the system include reference of medical facts and **relationships** , differential diagnosis, obtaining **data** on medications, and keeping medical records. Contains five **tables** , two charts, and a list of references. (GC)

Descriptors: Expert System; Medicine; Artificial Intelligence; Database

23/5/55 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-Eplus

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04523436 JICST ACCESSION NUMBER: 00A0159524 FILE SEGMENT: JICST-E

Association Analysis from Table Data and its Parallel Execution.

NAKASE AKIHIKO (1); **KUBOTA KAZUTO** (1); **SAKAI HIROSHI** (1); **OYANAGI SHIGERU**

(1)

(1) Real World Computing Partnership., JPN

Joho Shori Gakkai Kenkyu Hokoku, 1999, VOL.99,NO.66(HPC-77), PAGE.155-160, FIG.9, TBL.1, REF.4

JOURNAL NUMBER: Z0031BAO ISSN NO: 0919-6072
UNIVERSAL DECIMAL CLASSIFICATION: 681.32 681.3:061.68
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: We developed a data mining system which automatically find **association** rules from **table data**. In our system, a interested attribute can be explained using target attributes. We also made parallel execution version of this mining system and proposed two types of load balancing strategies. We compared scalability of these strategies with two types of data on massively parallel machine, and analyzed bottle-neck of each method. (author abst.)
DESCRIPTORS: massively parallel processing; **relational** data base; knowledge acquisition; computer algorithm; load sharing; subspace method; parallel algorithm; performance evaluation; scalability(computer); knowledge representation
IDENTIFIERS: parallelization
BROADER DESCRIPTORS: parallel processing; treatment; database; acquisition; algorithm; pattern recognition; recognition; evaluation; representation
CLASSIFICATION CODE(S): JC020100; JD03030U

23/5/66 (Item 6 from file: 6)
DIALOG(R) File 6:NTIS
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1020504 NTIS Accession Number: AD-A125 168/5
Design of a Universal Relation Database System
(Annual rept. 1 Sep 81-31 Aug 82)
Ullman, J. D.
Stanford Univ., CA. Dept. of Computer Science.
Corp. Source Codes: 009225004; 094120
Sponsor: Air Force Office of Scientific Research, Bolling AFB, DC.
Report No.: AFOSR-TR-83-0020
1 Sep 82 6p
Languages: English
Journal Announcement: GRAI8313
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A02/MF A01
Country of Publication: United States
Contract No.: AFOSR-80-0212; 2304; A2
While the **relational** model removes some of the task of navigation in the database from the user, it still leaves navigational responsibility with the user when multirelational queries are involved. To remove this responsibility from the user, the authors have begun implementing a universal relation user interface, that allows the user to see the **data** as one large **relation**, i.e., **table**, over all the attributes. Since there may be more than one connection among the attributes mentioned in a query, they have developed a fairly complex theory to allow the database designer to force certain connections to be taken by the database system and to aid him by suggesting connections that the authors believe to be natural. This theory includes the hypergraph representation of databases, explored last year, and the notion of acyclic hypergraphs, which are those with unique connections among attributes. (Author)
Descriptors: *Systems engineering; Data bases; User needs; Experimental design; Computer architecture; Algorithms; Simplification; Models; Syntax; Optimization; Utilization
Identifiers: Universal relation databases; Query; NTISDODXA; NTISDODAF
Section Headings: 62B (Computers, Control, and Information Theory--Computer Software)